S. Hrg. 100-187—Part 3

CLEAN AIR ACT AMENDMENTS OF 1987

HEARINGS

BEFORE THE

SUBCOMMITTEE ON
ENVIRONMENTAL PROTECTION

OF THE

COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

ONE HUNDREDTH CONGRESS

FIRST SESSION

ON

S. 300, S. 321, S. 1351, and S. 1384

BILLS TO AMEND THE CLEAN AIR ACT

RESPONSES TO AN INVITATION FROM SENATOR MITCHELL FOR COMMENTS ON THE COMMITTEE'S PROPOSED AMENDMENTS TO THE CLEAN AIR ACT

PART 3

Printed for the use of the
Committee on Environment and Public Works

U.S. GOVERNMENT PRINTING OFFICE
76-964 WASHINGTON : 1987

For sale by the Superintendent of Documents, Congressional Sales Office
U.S. Government Printing Office, Washington, DC 20402

S321-32

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

QUENTIN N. BURDICK, North Dakota, *Chairman*

DANIEL PATRICK MOYNIHAN, New York
GEORGE J. MITCHELL, Maine
MAX BAUCUS, Montana
FRANK R. LAUTENBERG, New Jersey
JOHN B. BREAUX, Louisiana
BARBARA A. MIKULSKI, Maryland
HARRY M. REID, Nevada
BOB GRAHAM, Florida

ROBERT T. STAFFORD, Vermont
JOHN H. CHAFEE, Rhode Island
ALAN K. SIMPSON, Wyoming
STEVE SYMMS, Idaho
DAVE DURENBERGER, Minnesota
JOHN W. WARNER, Virginia
LARRY PRESSLER, South Dakota

PETER D. PROWITT, *Staff Director*
BAILEY GUARD, *Minority Staff Director*

SUBCOMMITTEE ON ENVIRONMENTAL PROTECTION

GEORGE J. MITCHELL, Maine, *Chairman*

DANIEL PATRICK MOYNIHAN, New York
MAX BAUCUS, Montana
FRANK R. LAUTENBERG, New Jersey
JOHN B. BREAUX, Louisiana
BOB GRAHAM, Florida

JOHN H. CHAFEE, Rhode Island
ROBERT T. STAFFORD, Vermont
ALAN K. SIMPSON, Wyoming
DAVE DURENBERGER, Minnesota
LARRY PRESSLER, South Dakota

CONTENTS

Page

Cranston, Hon. Alan, and Hon. Pete Wilson, U.S. Senators from the State of California, joint statement 1
United States Trade Representative 5
States of:
  Alaska 7
  Montana 8
Harris County, Tex 18
Cities of:
  Colorado Springs, Colo 20
  Houston, Tex 23
Aerospace Industries Association of America, Inc 25
American Mining Congress 35
American Paper Institute/National Forest Products Association 38
Basin Electric Power Cooperative 53
Bay Area Air Quality Management District 61
Chemical Manufacturers Association 65
Clean Air Working Group 81
Consolidated Natural Gas Service Co 181
Engine Manufacturers Association 183
Ford Motor Co 188
General Motors Corp 203
Halogenated Solvents Industry Alliance 236
Honda North America, Inc 239
Interstate Natural Gas Association of America 242
Merck & Co., Inc 260
Motorcycle Industry Council, Inc 267
National Association of Counties 280
National Association of Manufacturers 285
National Paint & Coatings Association 295
Natural Resources Defense Council 305
New United Motor Manufacturing, Inc 315
South Coast Air Quality Management District 323
Texas Ozone Task Force 336
United Parcel Service 366

COMMENTS ON MUNICIPAL SOLID WASTE INCINERATORS

Letter from the Committee 371
Tampa, city of 373
Agassiz Basin Group, Sierra Club 379
Browning-Ferris Industries 381
CSI Resource Systems, Inc 384
Environmental Defense Fund 396
Maine People's Alliance 409
Save the Bay 413
Sierra Club 417
United States Conference of Mayors 420

United States Senate
WASHINGTON, DC 20510

August 3, 1987

The Honorable George J. Mitchell
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510

Dear George:

When the full Environment and Public Works Committee meets to markup the Committee Print on the Clean Air Act reauthorization, we understand that an amendment will be offered to strike the provision in the bill which extends the jurisdiction of the Clean Air Act over the Outer Continental Shelf (OCS). We strongly believe that the adoption of this amendment-to-strike would be ill-advised, and urge you to oppose any such amendment if offered.

Under existing law, the Department of the Interior -- not the EPA -- has jurisdiction over air quality on the federal OCS. This authority was delegated to the Interior Department in the Outer Continental Shelf Lands Act (OCSLA) Amendments of 1978. EPA retains air quality jurisdiction over the state territorial waters (i.e. the first three miles of the OCS that are under state control). Contrast this split air jurisdiction with the Clean Water Act where EPA has been given jurisdiction over both state and federal OCS waters.

There is no logical reason why jurisdiction over our air quality should be divided between the EPA and the Interior Department. The EPA is the agency with the expertise and the federal mandate to regulate our air quality. That mandate should extend over the federal OCS, especially in light of the serious impacts that offshore air emissions are having on our onshore air quality.

OCS air emissions sources are primarily three: oil and gas drilling rigs, oil and gas production platforms, and crew and supply vessels that service these offshore structures. The diesel engines on the supply boats and drilling rigs and the gas turbines on the production platforms combine to emit massive quantities of NOx. As these NOx emissions are blown ashore, they react with hydrocarbons in the air and form ozone.

Under OCSLA, the Interior Department is required to regulate these NOx emissions only to the extent that they "significantly affect" onshore air quality. Among other things, the Department has construed these words to mean that up to 100 tons per year of NOx from a production platform can be emitted without requiring the application of control technology. Furthermore, drilling rigs need not apply any control technology at all because of their temporary status (a typical drilling rig operation in one spot lasts approximately 90 days).

The net effect of the Department's implementation of the "significantly affect" language is to create a double standard for offshore air emissions. For example, an OCS platform located 2.9 miles offshore in state waters near Los Angeles would be subject to the Clean Air Act and would be required to achieve zero emissions through the use of control technology and offsets under the South Coast Air Quality Management District's State Implementation Plan. Yet, an OCS platform in the same area located 3.1 miles offshore in federal waters would be subject to Interior Department regulations which would allow it to emit up to 100 tons of NOx per year.

As these NOx emissions are blown ashore, the burden to mitigate the effects of this pollution shifts to the onshore air pollution control district. Even though EPA requires that the district take these emissions into account in formulating the air quality management plan, the district is without jurisdictional authority to require more stringent controls on these federal offshore sources. Consequently, onshore sources must further reduce their emissions in an attempt to counteract the impact of these additional federal OCS emissions.

The inequities created by this flawed regulatory scheme are obvious. In 1985, EPA was moved to write the Interior Department to state that source control requirements were falling disproportionately on onshore sources and that "onshore industrial growth may thus be precluded by the impacts of offshore development."

The EPA recently announced that it will impose a construction ban on major new sources of pollution in eight California counties because these communities will not be in compliance with the Clean Air Act standards by the December 31 deadline. In spite of this, the offshore industry will be allowed under Interior Department regulations to continue to build major new sources in federal OCS waters that will only aggravate an already critical onshore air quality crisis.

It has been alleged by some that there is no real problem here because offshore emissions are sufficiently dispersed by the time they reach the onshore air mass. Yet the only major study on this issue, the Joint Inter-Agency Modeling Study (JIMS) conducted under the auspices of the EPA, the Interior Department and the California Air Resources Board, has revealed that offshore operations in the Santa Barbara Channel produced approximately 10 percent of the ozone in the county's air basin on the day studied.

A 10 percent contribution to an air basin that is already in non-attainment for ozone clearly exceeds the OCSLA standard of "significantly affecting" onshore air quality.

Perhaps a more dramatic illustration of this problem is captured in an EIS accompanying a proposal for a new OCS platform off San Luis Obispo County in California. This county is presently in attainment, but the the EIS predicted that the addition of the proposed OCS platform off the county in federal waters will emit enough NOx to push the county into non-attainment for ozone.

The offshore oil industry need not be shut down in order to solve this problem. All that need be done is to extend the Clean Air Act over the OCS so that these offshore emissions sources are subject to the Clean Air Act emission requirements. The above mentioned proposed platform off San Luis Obispo County, for example, could still be built, the only change is that it would have to comply with air emission regulations required by that county's air quality management plan.

The oil industry has expressed the fear that local air pollution control districts that may not be sympathetic to the prospect of offshore oil development might craft air emission requirements that will have the effect of making any proposed development economically unfeasible.

We don't agree that air pollution control districts will abuse their authority in this fashion. However, in a concession to the oil industry on this point, language has been included in the Committee Print at our request that requires the EPA to assure that State Implementation Plans require comparable regulation of OCS and similar non-OCS sources (see subsection (d) of the OCS section). This language is intended to assure that offshore sources bear an equal burden along with similar onshore sources in achieving Clean Air requirements for a particular air basin -- not, as the oil companies argue, a disproportionately heavy burden.

The subsection (d) language is consistent with our premise that there should be no double standard for the offshore oil industry when it comes to the Clean Air Act. The offshore industry contributes to the air emission inventory for a particular air basin, and there is no reason why they should be partially exempt from mitigating those impacts. Conversely, there is no reason why they should bear an unreasonable burden in achieving that air basin's NOx requirements.

In short, air emissions from activities on the federal OCS should be covered under the Clean Air Act. The Committee Print includes language to this effect and any proposed amendment to strike this language should be opposed. It is time to make the Clean Air Act whole with regard to the entire U.S. air mass.

If you have any questions, please contact either of us directly or have your staff contact Jim Burroughs (Wilson, x45422) or Clare Radcliffe Thorne (Cranston, x48131).

Sincerely,

Pete

PETE WILSON

ALAN CRANSTON

THE UNITED STATES TRADE REPRESENTATIVE
WASHINGTON
20506

July 28, 1987

The Honorable George J. Mitchell
Chairman
Subcommittee on Environmental Protection
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510

Dear George:

I am writing to express my concern about a provision in the Senate bill amending the Clean Air Act, S. 1351, which would drastically reduce the allowable emission standards for motorcycles. I strongly urge that this provision be dropped, since it would have a severe adverse impact on the competitiveness of the domestic motorcycle industry. It would undermine the recent dramatic turnaround of the major U.S. motorcycle producer, Harley-Davidson, Inc., and undercut President Reagan's action in imposing relief on imported motorcycles pursuant to Section 201 of the Trade Act of 1974.

As you may know, the Harley-Davidson Section 201 case is one of the most successful trade relief actions we have seen. A major reason that the President provided substantial import relief in this case was that he was convinced that Harley-Davidson, through its impressive and far-reaching competitiveness program, would be able to adjust to the international marketplace without the need for long term import relief. In fact, Harley-Davidson's competitiveness program has been so successful that the Company recently took the unprecedented action of requesting early termination of its import relief program. We hope that Harley's competitiveness program -- which included a total redesign of its motorcycle line and a dramatic cost-reduction program -- will serve as an example to American industry.

As part of this competitiveness program, Harley-Davidson retooled and redesigned its product line at a cost of $30 million. In so doing, Harley relied on existing emission standards, and its motorcycle emissions are significantly below current federal standards.

Unfortunately, in order to meet the extraordinary reduction in emission standards proposed in the bill, Harley would have to engage in a prohibitively expensive redesign program, and the performance and appeal of such a redesigned motorcycle would be drastically impaired. The result of this bill would be to vitiate the benefits of the President's trade action and Harley's successful adjustment efforts. Moreover, I understand that air quality would not be significantly improved.

For all of these reasons, I urge you to remove the provision from the bill.

Sincerely,

Clayton Yeutter

CY:bhh

STEVE COWPER
GOVERNOR

STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

July 29, 1987

The Honorable George Mitchell
United States Senate
176 Russell Senate Office Building
Washington, D.C. 20510

Dear Senator Mitchell:

I am writing to thank you for providing the State of Alaska and the municipalities of Anchorage and Fairbanks the opportunity to work with Kate Kimball and other committee staff to develop legislation which addresses the cold start emissions problem. Further, I would like to urge you to include in the Subcommittee's amendment to the Clean Air Act reauthorization, the language which the staffs have developed.

As you know, automobiles emit significant levels of pollution during the first two minutes of operation before the engine has warmed up. This problem is especially pronounced at cold temperatures and could prevent many American cities from reaching attainment of health-related air quality standards for carbon monoxide. Cities in at least thirty states most frequently violate these standards in cold weather.

This problem cannot be totally resolved by inspection and maintenance programs. For example, Anchorage and Fairbanks spend more than $6 million per year on their inspection and maintenance programs which incorporate most of the inspection and maintenance requirements in your draft bill. Additional steps by EPA and the automobile industry are needed to complement State and local efforts to reduce carbon monoxide emissions.

The language developed by our staffs would accomplish this end by requiring that automobiles be capable of meeting emission standards at low temperatures. The industry and the EPA acknowledge that the technology exists to satisfy this requirement. In fact, they predicted that such techniques as fuel injection would be widespread by the mid-1980's. As you know this has not occurred. This legislation would ensure that available technology is used to the extent necessary to meet existing standards at a lower range of temperatures, such as those experienced in Alaska and many of the contiguous states.

I believe that the proposed language is a simple but effective solution to the cold-start problem, and I look forward to working with you as the legislation advances.

Sincerely,

John W. Katz for
Steve Cowper
Governor

cc: Senator Ted Stevens
Senator Frank Murkowski
Congressman Don Young

DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

AIR QUALITY BUREAU
TED SCHWINDEN, GOVERNOR
COGSWELL BUILDING
STATE OF MONTANA
(406) 444-3454
HELENA, MONTANA 59620

July 29, 1987

The Honorable George Mitchell
U. S. Senate
Senate Office Building
Washington, D.C. 20515

Dear Senator Mitchell:

The Montana Department of Health and Environmental Sciences wishes to express our concern in regard to post-1987 nonattainment area control strategies for carbon monoxide. Although the State of Montana has diligently followed the procedures outlined in the 1977 amendments to the federal Clean Air Act, we still have three nonattainment areas for carbon monoxide. The compliance statuses of Great Falls and Billings are presently being evaluated but Missoula will definitely remain out of compliance. Therefore, we are concerned about future carbon monoxide control strategies and would like to focus your attention on the attached briefing paper developed by the Fairbanks North Star Borough; or, more specifically, the proposal to require vehicle manufacturers to conduct carbon monoxide emission tests at lower temperatures which are associated with carbon monoxide violations.

A few months back we were asked by the Fairbanks North Star Borough to supply them with ambient temperature and CO data. They were interested in researching the relationship between ambient temperatures and violations of the primary CO standards. On July 6, 1987, we received a copy of their briefing paper (copy enclosed).

After reviewing the briefing paper, the Montana Department of Health and Environmental Sciences, Air Quality Bureau (MDHES-AQB) agrees with the borough position that the vehicle manufacturers should be required to reduce cold temperature CO emissions for cars and light-duty trucks starting with the 1990 model year.

The Montana cities of Billings, Great Falls and Missoula have populations about the same as Fairbanks. These Montana cities have tried conventional CO control measures except for the inspection and maintenance (I/M) program. Given the large expense and social adjustments associated with I/M programs, the MDHES-AQB is reluctant to initiate such programs in these cities.

We therefore respectfully ask that you work for changes that reflect the concerns raised in the enclosed briefing paper in any bill introduced this session that addresses the post-1987 nonattainment issue. We would be glad to answer any questions that you may have. Thank you very much for your help in this matter.

Sincerely,

Bob Raisch

Bob Raisch, Acting Chief
Air Quality Bureau

BR:kh

Enclosure

★ Fairbanks North Star Borough

809 Pioneer Road P.O. Box 1267 Fairbanks, Alaska 99707 907 452-4761

BRIEFING PAPER:
POST-1987 NONATTAINMENT AREAS
FOR CARBON MONOXIDE

SUMMARY

1. CARBON MONOXIDE AIR POLLUTION IN THE UNITED STATES IS A COLD TEMPERATURE PROBLEM.

   Over the last five years, the average temperature during CO violations, nationwide, was 45°F. Not a single CO nonattainment area in the United States had temperatures averaging higher than 65°F during violations.

2. EPA HAS NOT ADDRESSED THIS PROBLEM.

   Although Congress specified in Section 108(f)(1)(A)(xviii) of the Clean Air Act Amendments of 1977 that the Administrator of EPA "publish and make available . . . within one year after enactment . . . information . . . regarding processes, procedures, and methods to reduce or control each such pollutant, including . . . programs to reduce motor vehicle emissions which are caused by extreme cold start conditions," this requirement has never been fulfilled.

   EPA, by administrative regulation, has set emissions certification of vehicles at a temperature range of 68° to 86°F, with actual certification occurring normally at about 75°F. EPA's own computer emissions model, MOBILE 3, shows emissions at 45°F to be 50% higher than at 75°, even though MOBILE 3 actually underpredicts cold temperature emissions.

   In 1978, a draft EPA advisory circular recommended cold temperature emissions certification, at temperatures of 20° and 50°F, in addition to the 75° standard, in order to demonstrate compliance with Sections 202(a)(4) and 206(a)(3) of the Clean Air Act. Under heavy pressure from the automobile manufacturers, this draft circular was withdrawn and never implemented.

   Recent correspondence with EPA's Emission Control Technology Division clearly indicates that although EPA acknowledges that most CO violations are occurring at temperatures below 68°F, the agency is not willing to address the problem of cold temperature emissions, due to added certification costs, and other administrative, political, and economic considerations.

3. MILLIIONS OF DOLLARS ARE BEING SPENT NATIONWIDE ON CO CONTROL STRATEGIES THAT DON'T DIRECTLY TARGET THE ACTUAL PROBLEM.

   Fairbanks spent $1,000,000 for our I/M program in 1986. Nationwide, the annual bill for I/M must total hundreds of millions of dollars per year. This is for programs that result in actual emissions reductions far below their MOBILE 3 projections. Many additional transportation control measures, such as traffic flow improvements or improved mass transit, involve tremendous expenditures of money which result in fairly small reductions in carbon monoxide emissions. None of these approaches directly target the emissions which cause the great majority of CO violations in this country.

4. POST-1987 CO NONATTAINMENT AREAS SHOULD NOT BE REQUIRED TO ADOPT ADDITIONAL, INEFFECTIVE CONTROL STRATEGIES UNTIL MOTOR VEHICLES ARE CLEANED UP AT COLD TEMPERATURES.

   EPA's draft FY 1988 Operating Guidance did not even address the problem of post-87 carbon monoxide nonattainment areas. We feel that Congress and the agency must address this problem, through the avenue of cold temperature emissions certification. Until such time as EPA or Congress forces the auto manufacturers to lower these emissions, Fairbanks and many other areas across the country will continue to have great difficulty in making progress toward carbon monoxide attainment. Fairbanks is the extreme example, but many other communities are also deeply affected by the current inaction on cold temperature emission reductions.

   The VMT reduction measures proposed in Senator Mitchell's draft Clean Air Act amendments bill do not address the cold temperature emissions problem. Many are capital intensive and will not be cost-effective in reducing CO levels.

5. ALL PARTICIPANTS IN THE EFFORT TO ACHIEVE THE AMBIENT STANDARD FOR CARBON MONOXIDE SHOULD BE TREATED EQUALLY.

   Local nonattainment areas are allowed only one violation per year of 9 parts per million CO standard, no matter what temperatures or weather conditions occur. Yet EPA does not require vehicle manufacturers to meet applicable emission standards at all temperatures. Ambient temperatures should not be an excuse for anyone, be they local communities, vehicle manufacturers, or EPA, to evade their legal responsibilities under the Clean Air Act.

6. WE THEREFORE PROPOSE THAT VEHICLE MANUFACTURERS BE REQUIRED TO REDUCE COLD TEMPERATURE CO EMISSIONS, THROUGH AN ADDITIONAL EMISSIONS CERTIFICATION PROGRAM.

   Light-duty vehicles, trucks and engines manufactured during and after model year 1990 should be required to meet a reduction of at least 90% from the average CO emission of 1970 model year vehicles, during cold temperature operation at 20°F and 45°.

BACKGROUND

Fairbanks is currently in nonattainment for carbon monoxide, and, with 32 days above the allowable standard during 1986, we expect to remain in nonattainment status for a number of years. Indeed, we may never reach attainment. This is true even though we have implemented one of the strongest I/M programs in the country in a community of less than 60,000 people. The major reason for this is the severe cold which Fairbanks experiences each winter. This causes two things to happen. First, we have very intense temperature inversions which greatly increase our community's air pollution potential. Second, motor vehicles emit much higher levels of carbon monoxide at these temperatures, especially during the first couple of minutes after start up. Thus, the combination of meteorological conditions and motor vehicle emissions result in much higher CO pollution at colder temperatures.

This is the reason Fairbanks has not made greater progress toward attainment. However, we believe that this is also the reason why many of the nation's other urban areas have made slower than expected progress. It is our contention that in many ways carbon monoxide is a cold temperature air pollution problem, nationwide, and until the CO problem is addressed from that angle, there will be increasingly slower progress toward solving that problem.

Congress has been aware for some time of the fact that emissions from motor vehicles during cold temperature conditions are significantly higher. In fact, Section 108(f)(1(A)(xviii) of the Clean Air Act Amendments of 1977 specifically directed the Administrator of EPA A to develop procedures to reduce cold weather vehicle emissions. However, EPA has never done this. Correspondence between the Borough and the director of EPA's Emission Control Technology Division, Charles L. Gray, Jr., shows that although EPA agrees that most CO violations are certified, the agency is not planning on any action designed to specifically target these temperatures, because of various administrative, political, and economic consideration.

Our community spent $1,000,000 last year for our I/M program. Currently we have the regional office of EPA telling us that we need to do everything we can to attain the CO standard. The only reasons we have CO violations are weather conditions and cold start emissions. We can't do anything about the weather and the Ann Arbor staff of EPA is telling us that they aren't willing to address the cold start emission problem.

NATIONAL SIGNIFICANCE

If Fairbanks was the only nonattainment area thus affected, it would not be of national importance. It has been EPA's and the auto manufacturers' contention for years that this is the case. However, as mentioned previously, this cold temperature problem is much more widespread than formerly realized. Because persistent inquiries to EPA over the years for an examination of the relationship between CO violations and ambient temperatures have not resulted in any such action by the agency, we began our own national survey of CO nonattainment areas, in an attempt to look at this relationship. Table 1 shows our results, to date. It is obvious that cold start emissions are not just an Alaskan, or even merely a northern state, problem.

By administrative regulation, EPA has set the Federal Test Procedure (FTP) for emissions certification of newly manufactured vehicles at a temperature range of 68° to 86°F, with the actual target temperature of about 75°F. Because of this, there is not direct incentive for the auto manufacturers to lower emissions at temperatures outside that range. Indeed, if you look at the emission factors used by EPA in their MOBILE 3 computer model, you will see that motor vehicle emissions increase substantially both below and above those temperatures. While some of the emission control features used by the manufacturers to reduce the FTP emissions have also resulted in lower non-FTP emissions, due to serendipity, the data presented in the following table clearly show the poor performance of current emission controls on lowering emissions at the ambient temperatures where CO violations are occurring.

MOBILE 3 EMISSION FACTORS

Temperature	0°F	20°	45°	60°	75°	80°	90°
Emissions*	91.9	67.9	47.9	39.2	32.2	35.3	44.1

* Composite emission factors (in grams/mile) for entire motor vehicle population, using national default values and 1986 as a base year.

Thus, EPA's computer program shows that emissions at the national average CO violation temperature of 45° are 50% higher than at the certification temperature. For Fairbanks, emissions are almost three times as high as at certification. However, even these emission factors do not tell the whole story. MOBILE 3 actually underpredicts CO emissions at lower temperatures for new cars: 1980 and later model years. Because the majority of the VMT are caused by these vehicles, emissions at the colder temperatures which are actually occurring in nonattainment areas across the country are even higher than EPA has estimated.

Interestingly, the methodology used by EPA in estimating emissions reductions from I/M programs seriously overpredicts the expected benefits from such programs. A recent study, "Evaluation of the California Smog Check Program," done by Sierra Research for the California Air Resources Board, showed that while EPA had estimated better than a 25% reduction in CO emissions from the California I/M program, the actual reduction was less than 10%. Additionally, even an I/M program specifically designed to reduce cold temperature emissions as much as possible, as is our Fairbanks program, is not as effective at decreasing these emissions as it is on the 75°F emissions. Although there has been very little work on such an effectiveness study, engineering analysis points out the validity of such a conclusion. I/M consists of testing vehicles in a "warmed up" state. The higher CO emitted at lower ambient temperatures is due to defects during warm up. Therefore, I/M can not adequately detect or correct such defects. And most I/M programs are not even designed to try to reduce such emissions.

Because of these factors, many areas that have shown "paper" attainment for CO, based upon the implementation of I/M programs and the MOBILE 3 projections for reduced cold temperature emissions, are nowhere near attainment in actuality.

LEGISLATIVE ACTION

Congress is currently involved in drafting legislation on the subject of post-87 nonattainment areas. While most of this effort has focused on ozone nonattainment areas, carbon monoxide attainment is also an important issue which must be addressed. Senator George Mitchell (D-ME), Chairman of the Senate Environment and Public Works Committee's Subcommittee on Environmental Protection, has issued a draft bill which would amend the Clean Air Act by establishing new requirements for post-87 nonattainment areas, both ozone and CO. This bill contains many provisions which will enhance the progress toward attainment in such areas. Its main shortcoming was a lack of any language addressing the cold temperature emissions problem.

Subsequent action by the Subcommittee appears to have incorporated a section in the bill which mandates cold temperature certification at 20°F and an intermediate temperature between 20° and 68°F. Beginning in 1990, light-duty vehicles would have to meet an emissions standard which represents at least a 90 percent reduction from 1970 emissions levels. We would recommend that this requirement also be extended to light-duty trucks.

Congressman Henry Waxman (D-CA), Chairman of the House Subcommittee on Health and the Environment, has also been given the information on the relationship between CO violations and cold temperatures. It is unknown whether or not cold temperature certification language will be included in any draft House bill.

Additionally, post-87 nonattainment areas would be required to implement a number of transportation control measures (TCMs) unless it can be shown why any such measures aren't suitable. These TCMs include vehicle restricted zones, bus lanes, improved public transit, staggered work hours, ridesharing, alternate fuels for fleet vehicles, and traffic flow improvements. However, experience nationwide has shown that such strategies are not effective in reducing Co emissions. Cambridge Systematics Inc. was hired by EPA to study TCMs all over the United States. Their draft final report, "Transportation and Air Quality: A Review of Operational Experience," was released in May, 1986. This report showed that no areas are accomplishing significant reductions through the use of TCMs, with the maximum benefits being realized from such programs only amounting to about a three percent reduction in CO emissions.

CONCLUSION

It is fairly apparent that neither EPA nor the auto manufacturers are willing, under the existing political, regulatory, and economic conditions, to address a problem that has major significance for all the CO nonattainment areas in the country. Until such time as EPA or Congress forces the auto manufacturers to target vehicular emissions at the non-FTP temperatures, Fairbanks and many other areas in the country will have great difficulty in ever attaining the CO standard. Fairbanks, because of our severe wintertime conditions, represents the extreme case in this argument; but many other areas are also deeply affected by the current approach to reducing mobile source CO emissions. Congress needs to ensure that EPA does address this problem, through a low temperature certification program.

TABLE 1

State and City CO Violation Temperature Averages (°F)

STATE	AVG TEMP	CITY	AVG TEMP
AK	8.5	Anchorage	16.2
		Fairbanks	2.1
AZ	60.6	Phoenix	63.9
		Tucson	56.0
CA	53.7	Los Angelos	60.7
		Lk. Tahoe	38.9
		SJ Valley	53.5
		Sacremento	49.9
		S Central	60.3
		SF Bay	51.0
		San Diego	57.7
CO		Denver	32.7
		Ft Collins	*
		Greeley	*
		CO Springs	*
CT	45.7	Stamford	47.8
		Hartford	35.6
IL	60.2	Peoria	41.3
		Chicago	64.6
		Granite C	60.0
		Rockford	35.4
		Springfld	35.7
		Moline	36.5
IN	48.3	E Chicago	61.7
		Gary	45.0
		Indpls	47.4
KY	55.5	Louisville	55.5
MA	37.1	Boston	38.8
		Springfld	35.7
		Worcester	38.3
		Lowell	36.0
MD	51.7	Baltimore	51.7
MN	38.1	Minnepolis	38.1
MO	40.1	St Louis	51.8
		St Ann	35.7
		Kansas City	*
		Springfield	*
MT	33.0	Gr Falls	30.1
		Missoula	33.5
		Billings	31.5
NC	51.3	Charlotte	49.8
		Durham	51.1
		Raleigh	52.3
		W-Salem	46.0
NE	41.3	Lincoln	41.3
NH	28.6	Nashua	28.6
NJ		Jersey City	*
NM	39.7	Albuquerque	39.7
NV	46.2	Reno	35.1
		Las Vegas	52.5
NY	61.8	NY City	61.8
OH	47.5	Cleveland	46.6
		Columbus	45.3
		Akron	59.3
		Lk County	39.6
		St'benville	62.0
		Canton	52.0
OK	45.0	OK City	45.0
OR		Portland	46.9
		Medford	*
		Grants Pass	*
PA	49.0	Pittsburgh	49.0
RI	29.9	Providence	29.9
TN	55.1	Nashville	55.1
TX	54.7	El Paso	54.7
UT		Ogden	*
		Provo	*
		Salt Lk City	*
WA	39.5	Yakima	31.2
		Tacoma	38.2
		Bellevue	41.7
		Spokane	33.8
		Seattle	44.7

* Temperature data not yet available

AVERAGE TEMPERATURE 45.0°F

JON
Lindsay
COUNTY JUDGE

August 13, 1987

The Honorable Quentin N. Burdick
United States Senate
SH-511 Hart Senate Office Building
Washington, D.C. 20510-3401

Dear Chairman Burdick:

For fifteen (15) years, the citizens, government and industry of Harris County have diligently followed the dictates of State Implementation Plans designed to attain the ozone standard and approved by the United States Environmental Protection Agency. In excess of $100,000,000 has been spent on controls required by these plans, and we are no nearer our goal of attainment than when we first began. About twenty (20) times a year, Harris County continues to record levels of ozone in excess of the National Ambient Air Quality standard in spite of persistent efforts to exercise control over its formation.

As I am sure you and your committee realize, we are gravely concerned over the consequences of sanctions mandated by the Clean Air Act amendments of 1977 for those areas not in compliance with the ozone standard by December 31, 1987. Harris County has been in a recessionary cycle for several years. The last thing we need at this time is a crippling blow to our economic base and that is precisely the effect sanctions will have.

In this community, we work together to solve our problems. Over the past several years, both private and public interests have joined forces to cooperatively address environmental issues. One such group is the Texas Ozone Task Force whose representatives traveled to Washington in mid-June to share their findings and conclusions with various public interest groups, Congressional staff and the EPA. They were warmly received and carefully listened to by some of your committee staff on June 19, and I am grateful to you for allowing them that opportunity. S.1351 had just been introduced so the Task Force was not in a position to comment on the bill as they had not had time to review it. Since then, the members of the Task Force have spent long hours evaluating the provisions of S.1351 and have prepared written testimony for the record.

HARRIS COUNTY ADMINISTRATION BUILDING / 1001 PRESTON SUITE 911 / HOUSTON, TEXAS 77002-1896 / (713) 221-6666

While Senator Mitchell is to be commended for introducing legislation aimed at resolving the intractable ozone issue, findings of the Texas Ozone Task Force indicate that S.1351 contains numerous unworkable provisions and the sanctions are more onerous than those called for in the Clean Air Act Amendments of 1977. If the bill becomes law as it now stands, it will bring us no nearer to attainment of the ozone standard, and it most assuredly will further bludgeon our economy by requiring us to perform impossible tasks and seek unattainable goals. The testimony of the Texas Ozone Task Force details the problems we see with the proposed legislation and offers suggestions based on data and experience to remedy those requirements we view as unrealistic. Since it is important to effectively resolve the ozone issue this year, I would ask that you give maximum consideration to the testimony of the Texas Ozone Task Force. They are not asking that our effort in Harris County be diluted or our burden made lighter; rather, they are asking that our effort be allowed to reflect reality. There is no patented cure for the nationwide ozone problem. Ozone formation is imperfectly understood. Each region has its own peculiarities. As more information is gathered, we must be allowed the flexibility to act upon it, and sincere efforts must not be penalized. We must work together using state-of-the-art technology. We must not continue to blindly pursue the failed policies of the past.

If you or your staff have further questions, the Task Force will be pleased to provide answers.

Sincerely,

Jon Lindsay

JON LINDSAY
County Judge

JL/lss

cc: Members - COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
    Honorable Lloyd Bentsen
    Honorable Phil Gramm

ROBERT M. ISAAC
MAYOR

CITY OF COLORADO SPRINGS

August 25, 1987

The Honorable Quentin N. Burdick, Chairman
Senate Committee on Environment and Public Works
458 SDOB
Washington, DC 20510

Dear Senator Burdick:

I wish to submit for the committee record the City of Colorado Springs' comments on S. 1351, the Clean Air Standards Attainment Act of 1987, as contained in the attached letter to Senator Tim Wirth.

Thank you for the opportunity for consideration of our concerns by the full committee.

Sincerely,

Robert M. Isaac
Mayor

Attachment
cc: Cathy Reynolds, President
National League of Cities

CITY ADMINISTRATION BUILDING, SUITE 401 / 30 SO. NEVADA AVE. / PHONE 303-578-6600
MAILING ADDRESS: POST OFFICE BOX 1575 / COLORADO SPRINGS, COLORADO 80901

ROBERT M. ISAAC
MAYOR

CITY OF COLORADO SPRINGS

July 30, 1987

The Honorable Timothy E. Wirth
387 Russell Senate Office Building
Washington, D. C. 20510

Dear Tim:

The City of Colorado Springs is following with interest the mark-up of S. 1351, the Clean Air Standards Attainment Act of 1987. We appreciate your efforts as co-sponsor to extend deadlines and delay imposition of sanctions for nonattainment areas that are currently implementing all measures in approved or submitted State Implementation Plans.

Colorado Springs is committed to meeting and maintaining air quality standards. I have attached documentation of our past and ongoing efforts for your information. We are very close to meeting the carbon monoxide standard due to assertive planning. City Council this week endorsed the revised State Implementation Plan for the Colorado Springs Urbanized Area (Executive Summary attached).

As with any legislation as comprehensive as S. 1351, there are areas of particular concern to us:

- We support retention in mark-up of the provisions exempting municipal resource recovery facilities from both the construction ban and the requirement to reduce emissions from other sources to offset emissions from resource recovery facilities.

- We oppose "frontloading" of requirements for attainment by a prescribed date, regardless of whether or not EPA has promulgated guidelines for those requirements. As a practical matter, many of the provisions of the bill which would help a locality achieve the standards may not be in place due to EPA regulatory delays, or the necessity for state and/or local legislation. To attach sanctions, such as withholding of highway, clean water and clean air funds, as well as construction moratoriums, in such instances is unfair.

CITY ADMINISTRATION BUILDING, SUITE 401 / 30 SO. NEVADA AVE. / PHONE 303-578-6600
MAILING ADDRESS: POST OFFICE BOX 1575 / COLORADO SPRINGS, COLORADO 80901

- We oppose subsections (i) and (j) under Sec. 302, Title III, requiring secondary ambient air quality standards for fine particles and primary ambient air quality standards for acid aerosols, respectively. These two air quality standards are not related to attainment/nonattainment status and should be treated in separate legislation.

City Council appreciates your leadership in getting Congress to act in an expeditious manner to reauthorize the Clean Air Act before December 31, 1987. I look forward to further dialogue on these and other issues as the bill progresses.

Sincerely,

Bob

Robert M. Isaac
Mayor

cc: City Council

attachments

OFFICE OF THE MAYOR
CITY OF HOUSTON
TEXAS

KATHRYN J. WHITMIRE
MAYOR

July 30, 1987

The Honorable George J. Mitchell
U.S. Senate
364 Russell Senate Office Building
Washington, D.C. 20510

Dear Senator Mitchell:

I am writing to express both my appreciation for your leadership in bringing the ozone nonattainment issue to the fore in the Senate and my concern for some of the proposals your subcommittee bill has set forth for nonattainment areas. As you well know, many cities, including Houston, have been striving for 15 years to attain the national ambient air quality standard for ozone, as part of our overall efforts to achieve clean air. In Houston, we have been implementing an EPA approved SIP, have reduced hydrocarbon emissions by more than 45% since 1980, but have seen no change in the ozone levels. By December 31, 1987, it is very unlikely that we will attain the standard, and, under the current Clean Air Act, we would be faced with a series of sanctions which would do severe economic and environmental damage to our city.

Your initial proposal for amending the Clean Air Act is to be commended for changing the sanction provisions to apply only in areas that have failed to implement a control strategy and I regretted to learn that the Environmental Protection Subcommittee did not maintain that recommendation. Your proposal would have recognized that many cities, like Houston, have taken major steps to achieve clean air, have followed EPA approved plans, and have discovered that the EPA strategy of controlling hydrocarbons to reduce ozone has not worked.

I must express concern to you about other aspects of the Subcommittee's bill, in light of the efforts undertaken by the public and private sectors in Houston and the resulting experiences in air quality control.

1. Because we have witnessed substantial reductions in hydrocarbon emmissions without concurrent reductions in ozone occurrences, I am skeptical that Houston, which would fall into the severe category, would be able to achieve the annual percentage and area-wide emission reduction targets. Houston would very likely be subject to automatic sanctions under the new bill, despite our best efforts to comply.

Senator Mitchell
Page two

2. The bill would call for major transportation reforms, beyond Houston's current plans to improve mass transit systems and mobility. These reforms could cause major social changes not welcomed by our citizens, and would be detrimental to the health of our central business districts. Past analyses of transportation control measures in the Houston area indicate that the controls would not produce significant gains in emission controls.

3. The per source emission reductions in many cases are not technologically feasible and could hurt the petrochemical industry, the major contributor to the Houston economy. Failure to achieve per source reductions would in turn cause automatic economic sanctions, further damaging Houston's ability to expand its economy at a time when economic development is the top priority for this area.

4. The new sanction - a ban on sewer hook-ups for publicly owned treatment works - would apply for failure to implement mandated controls. This sanction has serious environmental implications for Houston, an area striving to improve water quality through the expansion of regional sewage treatment systems. This sanction would not only halt the growth of our community, it would also lead to more privately owned, package sewage treatment plants and would threaten the stability of our wastewater treatment bonds.

5. Finally, and perhaps most importantly, there is a need for any amendment to the Clean Air Act to address the question of how we can attain the ozone standard. Clearly the methods of the past have not worked. We have reduced emissions without reducing ozone. Research is needed to better understand how ozone is formed and what controls can be implemented that will actually lead us to our clean air goals.

The Texas Ozone Task Force, a partnership of public and private sector organizations and individuals concerned with clean air, will be submitting detailed comments in response to your subcommittee bill. I hope you and your staff will take the opportunity to consider their review.

Again, I must stress my appreciation for your concern about air quality, and your leadership in presenting the first bill to Congress to address the ozone attainment problem. I am committed to clean air, economic stability, and a high quality of life for the citizens of Houston and I want to work with you to achieve all of those things for our entire country. Thank you for your consideration of my comments.

Sincerely,

Kathryn J Whitmire

Kathryn J. Whitmire

KJW:scg

Aerospace Industries Association of America, Inc.

Comments of the
AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC.

submitted for consideration by the
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

in connection with Committee consideration of
the Clean Air Standards Attainment Act of 1987.

August 31, 1987

The Aerospace Industries Association of America, Inc. (AIA) is the trade association representing the nation's leading manufacturers of commercial, military and business aircraft, helicopters, aircraft engines, missiles, spacecraft, and related components and equipment. We appreciate the opportunity to submit comments regarding the proposed Clean Air Standards Attainment Act of 1987. Our comments address the nonattainment and hazardous air pollutant provisions of the bill.

The Aerospace Industry

The aerospace industry is located in a number of nonattainment areas throughout the country including: Atlanta, Boston, Chicago, Dallas/Fort Worth, Denver, Detroit, El Paso, Houston, Kansas City, Los Angeles, Newark, New York, Philadelphia, Phoenix, Pittsburgh, St. Louis, San Diego, and Tulsa. Over 40 percent of aerospace employment is located in the Pacific region, of which over half is in California, the majority in the greater Los Angeles area.

Aerospace operations are extremely diverse. Aerospace products range from large aircraft, such as the Boeing 747, the McDonnell Douglas KC-10, and the Rockwell Space Shuttle, to a variety of smaller, highly specialized products such as satellites and missiles. The industry also produces a range of other high technology products, such as radar systems, optical and communications equipment, and a number of other electronic components.

The vast majority of ozone precursor emissions from aerospace operations result from the use of coatings and solvents. Of the approximately 1060 tons per day of volatile organic compounds (VOC) estimated to be emitted in the South Coast Air Basin, the industry's coating and solvent use represents approximately 10 to 15 tons per day. This number compares to a total stationary source VOC contribution of approximately 558 tons per day.

1725 DeSales Street, N.W. Washington, D.C. 20036 • (202)429-4600

The manufacturing process for such products is usually cyclical and non-standard. The period of time from initial product design to actual production can constitute several years. Furthermore, as a product moves from the design stage through the production stage, the rate of production may vary significantly. Only a few aircraft, for example, are typically produced in the early years of a product's development. Even during later years, funding decisions may affect production levels. Therefore, production rates, and associated emission levels, will fluctuate markedly from year to year.

Even during a steady production phase, a facility's emissions rate will fluctuate on a day to day basis, especially in the case of larger aircraft production. This irregularity is due to the fact that the assembly process usually requires the confluence of hundreds to thousands of individual, carefully sequenced steps, performed by several contracting levels, before a product can be completed. In many instances, a single product may be completed only once every few months. Since coatings and solvents are applied for different purposes and to various component part types throughout assembly, there is no representative mix of coatings and solvents that would be used on a daily bases.

Coatings and solvents applied by the industry represent more than 20 years of technological development. Because of the stringent performance, safety and contract requirements of most aerospace products, it has proven difficult to identify acceptable substitute low-VOC coatings and solvents. Alternative materials do not currently exist for many of the specialized coating and solvent functions, such as the structural function of an adhesive bonding primer, the corrosion protection provided by a fuel tank coating, or the thermal protection provided by certain spacecraft coatings.

Notwithstanding the difficulty of identifying acceptable alternative low-VOC materials for all applications, the industry has achieved substantial emission reductions by converting to low-VOC materials in a number of areas. This success has largely been attributable to an ambitious industry-wide research and development effort devoted to identifying, testing and qualifying the use of new low-VOC materials. Since the early 1970's in the South Coast Air Basin, VOC emissions from the industry's solvent and coating applications have been reduced by approximately 60%, or 15 to 20 tons per day, primarily though conversion to low-VOC materials, improvements in transfer efficiency, and installation of control equipment.

During the last two years, a group of ten AIA members has requested that the Environmental Protection Agency (EPA) and the Department of Defense (DOD) work with industry to develop coating and solvent guidelines that would achieve ambitious VOC emission reductions without sacrificing the performance or safety of aerospace products. The stated position of this group was that, where possible, the development of, and conversion to low-VOC coatings and solvents was the preferred method of emission reduction. The group developed a two-volume technical report to provide extensive background information regarding the industry's sources of emissions and manufacturing characteristics. The effort included the proposed development of universal specifications for the industry's high-usage coatings, a topcoat and primer, to encourage coating manufacturers to develop low-VOC alternatives that could be applied universally.

COMMENTS REGARDING TITLE I

The Nonattainment Problem

AIA supports the regulatory approach of the current Clean Air Act. The Act places primary planning responsibility on the states to provide for continued progress towards attainment of the national ambient air quality standards for ozone and other pollutants in each of their air basins. Despite the adoption and implementation of stringent stationary and mobile control measures in several nonattainment areas, it is not possible, without severe economic and social consequences, to attain the ozone and carbon monoxide standards in the near term. Congress should provide an extension of the deadline to areas which have made good faith efforts to plan and implement the Act's nonattainment provisions. Sanctions should not be imposed on such areas. If new deadlines must be set, they should reflect the particular circumstances of each air basin.

For areas which cannot attain the ozone standard by 1987, a comprehensive emissions inventory should be developed which includes all sources of emissions and identifies their relative contribution to ozone formation. The burden of increasingly more stringent control measures should be shared equitably among all sources of ozone precursor emissions. Care should be taken to impose burdens only to the extent that they result in a balance of air quality benefits measured against social and economic consequences. Business flexibility and a company's ability to manufacture a high quality product should not be impaired without a corresponding air quality benefit.

Reasonable further progress (RFP) would be measured based on reducing the overall exposure of an area's population to ozone. An area's success in reducing the peak levels of ozone, the duration of exceedeances, or the number of monitoring stations reporting an exceedance should be recognized as progress. Such reductions represent reduced population exposure, and thus reflect a direct benefit to public health. Monitoring and modeling techniques can be improved to support such a regulatory approach, which focuses on overall air quality improvement.

Comments on Specific Nonattainment Provisions

1. Deadline Extension

If deadlines must be set, they should be realistic. Most nonattainment areas cannot attain the ozone standard by 2002 without severe economic and social dislocation. To give you an idea of the extent of the problem, the Executive Officer of the South Coast Air Quality Management District (SQACMD) wrote to Representative Henry Waxman on March 20, 1987:

> I agree with the EPA Administrator that, for at least the next 20 years, removing all motor vehicles would not provide for attainment of the ozone standard. Likewise, removing all stationary sources would not achieve the ozone standard...(L)limits (necessary to achieve the standard in the near term) would be economically infeasible for many businesses in the Basin, leading to closures and relocations of significant numbers of these business.

No matter how laudable the goal of rapid attainment of air quality standards, the emission reductions required to attain the standards in some areas are not achievable with available and foreseeable technology without radical lifestyle changes and extremely severe economic consequences. More realistic deadlines will ameliorate the social and economic dislocations which will result as ever more stringent measures are implemented.

2. Bubbling, or Existing Source Emissions Trading

Proposed new paragraph 172 (d)(1)(E) [Bill Section 101(c)] would prohibit bubbling as a means of compliance with existing source rules. Bubbling. otherwise known as emissions averaging or equivalency, is used by almost every major aerospace manufacturer as a means of complying with Reasonably Available Control Technology (RACT) requirements. In practice, this method of compliance has encouraged the development of innovative reduction techniques while assuring overall actual reductions equivalent to RACT.

Emissions averaging is necessary whenever the nature of specific activity does not fit the general assumptions underlying an emission limitation. For example, a paint manufacturer may develop a generic low-VOC coating which is satisfactory for most metal surfaces. Laboratory or field tests, however, may demonstrate the failure of the material when applied to special metal substrates, such as aluminum or titanium, which are typically used in aerospace products. Likewise, the cleaning performance of a low-VOC solvent formulation may suffice for most surface preparation or cleanup tasks, but fail to satisfy the degree of cleanliness required by a spacecraft's optical systems.

When a regulation requires the use of a low-VOC material that cannot be used for a specific aerospace operation, emissions averaging enables the manufacturer to achieve equivalent emission reduction by other means. Such other means have included the installation of control technology, the improvement of transfer efficiency (i.e. increasing the amount of coating that adheres to the part being coated, thus decreasing the amount of coating used), other process change, or the use of a lower-VOC material than otherwise required for other applications. Under most existing source bubbling provisions, a source cannot obtain credit toward RACT compliance by shutting down equipment. Credit is available only when a company achieves greater reductions than required for ongoing operations at the same location.

The net result of allowing existing source bubbling, therefore, is to encourage the development of innovative emission reduction techniques, through advances in control technology, materials development and improved processes. When such developments occur, they often can be used by other industrial sources, thus providing additional reductions to those targeted by a rule.

With an emissions averaging provision, agencies also can adopt technology-forcing regulations (and, therefore, achieve the associated emission reductions) before technology becomes available for all applications. Thus, another benefit of emission averaging is that emission reductions are achieved on a more rapid basis, while business flexibility in performance- or safety-critical areas is preserved. Because existing source bubbling promotes more expeditious emission reductions and encourages the development of innovative technology, state and local regulatory agencies should be given the discretion to determine when emissions averaging would promote regulatory objectives and would otherwise be justified for a specific RACT provision.

3. Major Source Emission Reductions

Proposed new paragraph 172 (e)(2)(C) [Bill Section 101(c)] would require that each major stationary source (measured at 25 tons per year of a criteria pollutant) located in a severe nonattainment area achieve specified annual emission reductions (including a total reduction of 33% during the next four years), regardless of whether technology exists to accomplish that objective. In the Los Angeles area, the aerospace industry already has reduced its coating and solvent emissions by approximately 15 to 20 tons per day since the early 1970s. Without a revolutionary breakthrough in coating and solvent technology, the required reductions could not be accomplished without shutting down a significant portion of aerospace operations.

The bill as currently drafted would provide credit toward the facility reduction requirements for those reductions achieved during or after 1982. Because the majority of the aerospace industry's reductions occurred during the 1972 to 1982 time period, this provision would not provide any significant relief from the paragraph's mandated reductions.

4. Definition of Reasonably Available Control Technology

Proposed new paragraph 171(6) [Bill Section 102(b)] would add a definition of reasonably available control technology (RACT). The proposed definition includes the phrase "the potential toxic character of such pollutant or precursor," which implies that an agency would have blanket authority to regulate a chemical as a potential toxic air contaminant through the designation of RACT. If such authority is to be granted, there should be careful guidance as to when such regulation is proper. Sufficient authority for the regulation already exists in the substantive provisions of Section 112 of the Act. New authority should not be provided in a definitional section.

The proposed definition also apparently would deemphasize cost-effectiveness as a factor in determining RACT. We believe that cost-effectiveness considerations will always be relevant in selecting among viable control options.

The next to last sentence of paragraph 171(6) also appears to expand RACT applicability to "any other significant source or class of sources of emission." Such language is so broad as to suggest that RACT would apply to any source, stationary or mobile, major or minor, and that it could address noncriteria as well as criteria pollutants. If this sentence does not expand RACT applicability, then it is unnecessary. If it does create new authority, then the scope of such new authority should be clearly articulated, preferably not in a definition.

The last sentence requires that RACT be implemented through a permit system. Many sources of emission are not associated with the use of equipment, which is the customary focus of a permit requirement. This is the case, for example, for the use of solvent wipe rags and tiny solvent and coating bottles (the size of white-out bottles). It should not be necessary to require that a permit be obtained for such activities to implement RACT. Many coating rules, for example, specify the hydrocarbon content of coatings and solvents applied by hand. These rules can be enforced by checking the materials used, without the administrative cost and other burdens associated with obtaining a permit.

COMMENTS REGARDING PROPOSED TITLE V
HAZARDOUS AIR POLLUTANTS

The proposed Title V is potentially one of the most significant and far-reaching pieces of environmental legislation ever considered. Many of the automatically listed chemicals are widely used by the industry for critical operations. Hundreds of other chemicals may be added under the bill's provisions. If adopted, the bill could prevent new industrial activities and cause the shutdown of a significant number of existing operations.

AIA encourages the Committee to carefully consider whether the tremendous scope and stringency of the proposed legislation is justified by existing public health data. The legislation reflects several implicit assumptions which need to be made explicit and examined on their merits. The proposed Title V presupposes that the problems with toxic emissions are severe enough that a large number of chemicals must be regulated; that the sources of these emissions are significant even when usage is very low; that the timeline for regulatory action must be greatly accelerated; that an administrative agency can manage this expanded bureaucracy; and finally, that the societal benefit from this legislative action will be substantial. AIA believes that these assumptions are not necessarily valid.

There is general agreement in the public health field that gross exposures to toxic air pollutants can produce acute and chronic health problems. It is widely believed that these impacts are dose-related, i.e. large exposures have more significant effects than small exposures. Health professionals have established risk assessment values which answer the question, "What is a very safe exposure?" This is a valuable question, but not the only question that must be asked when developing a regulatory or legislative program. Another important question is, "What exposure value represents the point at which health professionals are confident that some person will benefit from the regulatory or legislative action?" It would be a mistake, however well-intentioned, to create a federal regulatory program which greatly surpassed any real population health benefit and created unnecessary social and economic burdens. There is a serious concern emerging in the American public health schools as to whether their work has been badly misunderstood in the regulatory/legislative framework. It is important that Congress make a special effort to solicit advice from these institutions as it establishes environmental health programs.

AIA suggests that the legislative mandate in the area of toxic air emissions should be prioritized to regulate significant sources and concentrations of pollutants so as to directly benefit community health without unduly restricting beneficial social or economic activities. Required management techniques and control equipment specifications should be based on existing, viable technology. Especially for the less significant emission sources, any regulatory program should allow for a gradual phase-in of new technology requirements, to achieve sustained reductions in area-wide hazardous air pollutant emissions, without causing a sudden dislocation of industrial activity.

Whenever possible, industry should be encouraged to participate in a partnership with government to develop industry process designs and incorporate incentives which minimize the future use of hazardous materials. This approach is currently achieving considerable success in the waste minimization programs in progress throughout the country.

Specific Comments Regarding the Proposed Legislation

1. The bill would prevent effective risk management by regulatory agencies - Risk management traditionally involves a careful balancing of the benefits associated with a chemical's use, the cost and feasibility of controls, and the potential environmental, economic and social consequences of regulation as well as the estimated risks of chemical use. Only by balancing all of these factors can one ensure that regulation will not result in a net social loss. The bill would prevent regulatory agencies from managing risk because it expressly prohibits the consideration of "costs, economic, energy or ther factors or technological feasibility" in developing emissions standards.

2. The bill would deprive local communities of their current planning role - The bill removes the primary hazard planning responsibilities from local communities (where it was placed by recent Superfund legislation). This is undesirable because the local communities are in the best position to balance the risks and benefits of certain chemical uses (i.e., to manage risk) and to implement plans that address local conditions.

3. The bill overregulates: It assumes that almost no risk is acceptable - The bill assumes that any estimaated risk in excess of one in a million is unacceptable. Such a standard is a dramatic departure from previous statutes, which regulate "significant", as opposed to non-negligible, risks. Such a standard also ignores important factors, such as the cost of, or feasiblity of control technology, the social, economic or environmental benefits of the chemical regulated, or the social, economic or environmental consequences of alternatives to current uses of such chemicals. Such rigidity is unprecedented. Decisions of most regulatory agencies, including the EPA, have fallen within a broad range of risk (spanning several orders of magnitude of estimated risk) as a result of balancing the above factors and of considering the significant uncertainty underlying the entire risk assessment process.

4. The bill creates the likelihood that chemicals will be regulated based on an incomplete consideration of all relevant data - The bill requires the listing of several chemicals and creates an open-ended mechanism for the additional listing of hundreds of others. The likely result is that any chemical for which there is any adverse data will either be regulated or studied at great cost (to be paid by facility owners and operators). If such a large range of chemicals will be reviewed, it is essential that the bill ensure that all relevant health effects data, including metabolic, pharmocokinetic, mechanistic, and other biological information, be considered before a chemical is listed. The decision to list should be based on a careful weighing of of all relevant evidence. The bill also establishes an impossible schedule which will force EPA to list substances without sufficient time to conduct proper scientific studies.

5. The bill does not provide for accurate risk measurement - Because the bill establishes virtually a zero-risk standard, it creates an impossible task of accurately measuring risk. Traditional risk assessments are based upon a series of ultraconservative assumptions designed to prioritize, not to measure, risk. (As EPA pointed out in its Guidelines for Carcinogen Risk Assessment, current unit risk factors do "not necessarily give a realistic prediction of the risk. The true value of the risk is unknown, and may be as low as zero.") The significance of a risk is then determined by reviewing the weight of scientific evidence and relevant risk management data (e.g., the benefits and burdens of the chemical's use and of its regulation). Whether a chemical's use poses a significant risk cannot be based merely on the traditional ultraconservative estimate. The management of risk must be based on a more accurate projection of adverse health effects or, as in the case of this bill, it will effectively terminate socially beneficial activities without achieving any actual health benefit.

Conclusion

Significant progress towards ozone attainment has already been made under the nonattainment provisions of the current Clean Air Act, including substantial emission reductions from aerospace industry operations. The proposed legislation would set unreasonable deadlines, require unachievable emission reductions and preclude further use of emissions bubbling by existing sources.

Furthermore, AIA believes the hazardous and toxic air pollutant requirements of the proposed bill are not necessary. Sufficient authority already exists and should be allowed to function as valid scientific information develops. Even those who develop the present risk assessment numbers indicate the numbers do not necessarily represent realistic predictions of risk. The unprecedented rigidity of this proposed bill will force EPA to prematurely implement regulations which are not supported by valid scientific evidence. In many instances, these regulations would result in extraordinary economic hardships or closure for the regulated industry without a commensurate public health benefit.

For the foregoing reasons, AIA cannot support the proposed legislation.

AMERICAN
MINING
CONGRESS

FOUNDED 1897

Suite 300
1920 N Street N W
Washington, D.C. 20036
202/861-2800

TWX 710/822-0126
Easylink: 62756020

Officers

Chairman:
Harry M. Conger

Vice Chairman and Chairman, Finance Committee:
Milton H. Ward

Vice Chairmen:
Ralph E. Bailey
Robert H. Quenon
Frank A. McPherson
Allen Born
Richard de J. Osborne
Gordon R. Parker
G. Robert Durham
George D. Kennedy
M. Thomas Moore

President:
John A. Knebel

Vice President & Secretary:
Barbara Spillinger

Directors

Robert W. Hutton, Greenwich
Ralph E. Bailey, Stamford*
Thomas A. Holmes, Woodcliff Lake NJ
Robert H. Quenon, St. Louis
Frank A. McPherson, Oklahoma City
Calvin A. Campbell, Jr., Chicago
Harry M. Conger, San Francisco
Richard G. Miller, Chicago
Lord Clitheroe, London
Kenneth J. Barr, Englewood CO
A.W. Calder, Pittsburgh
Gino P. Giusti, Stamford
William G. Kegel, Indiana PA
John A. Wright, Clayton MO
Douglas J. Bourne, Houston
Milton H. Ward, New Orleans
Renold D. Thompson, Cleveland
G. Frank Joklik, Salt Lake City
Allen Born, Greenwich
Michael R. Bowlin, Denver
B.R. Brown, Pittsburgh
R. Gene Dewey, Los Angeles
Gerard K. Drummond, Portland
Richard M. Holsten, Jr., Englewood
Robert A. Lothrop, Boise
George E. Nettels, Jr., Pittsburg KS
Richard de J. Osborne, New York
Gordon R. Parker, New York
Reuben Richards, New York
W.R. Stamler, Millersburg KY
B.G. Bradley, Dallas
G. Robert Durham, Phoenix
Richard W. Ince, Knoxville
George D. Kennedy, Northbrook IL
Terry A. Kirkley, Houston
M. Thomas Moore, Cleveland
Carl E. Nickels, Cleveland
John F. Schaefer, Orange CA
Robert T. Spitz, Charlotte NC
Arthur Brown, Coeur d'Alene
Sir Ian MacGregor, New York †
N.T. Camicia, Greenwich †
Charles F. Barber, New York †

* Immediate Past Chairman
† Honorary

August 7, 1987

The Honorable George J. Mitchell
United States Senate
Washington, D.C. 20510

Dear Senator:

RE: S.1351, the "Clean Air Standards Attainment Act of 1987"

On behalf of the American Mining Congress, whose members produce most of America's coal, metals and industrial and agricultural minerals, I ask you to critically evaluate sweeping amendments to the Clean Air Act embodied in the referenced bill. This bill was reported by the Subcommittee on Environmental Protection on July 29 and will be considered by the Environment and Public Works Committee on September 15.

These amendments, according to testimony of EPA Administrator Lee Thomas, could cost more than $30 billion per year, an amount he characterized as "out of proportion to the likely health and environmental benefits."

As well intentioned as the bill's sponsors might be, the national economy simply cannot afford costs of such magnitude, representing at least a 100 percent increase in current annual air pollution control expenditures.

As was evident in your recent consideration of the trade bill, American industry, including mining, operates in a highly competitive world market. To be competitive, we must assure that all increased costs, including those for environmental improvement, are necessary and prudent. When you have examined the consequences of this bill for industries in your State, you will agree that S.1351 satisfies neither of these prerequisites.

EPA's conclusion that the bill's costs are out of proportion to the potential health and environmental benefits is true for the legislation as a whole as well as its five titles individually. For your reference, I have enclosed a brief summary of the problems we have identified in each title.

No reason justifies the radical departure from existing policies of the Clean Air Act embodied in the proposed amendments. On the contrary, as Administrator Thomas has stated:

> [T]he Clean Air Act as it currently exists is working reasonably well. ... Our efforts to protect public health from the adverse effects of air pollution have been successful in many areas, and our success is even more striking when evaluated in light of the economic growth this country has enjoyed over the past 15 years.

Sincerely,

John A. Knebel
President

Enclosure

Preliminary Analysis of S.1351,
the "Clean Air Standards Attainment Act of 1987"

Title I: Nonattainment. As EPA has testified, the nonattainment provisions would result in overcontrol in many areas that have only marginal air quality problems. While nonattainment areas would be afforded short-term relief from limits on new source permitting under existing law, this would be gained only through acceptance of much more severe economic and social consequences over the long term.

Title II: Acid Rain. The total costs of this program for the domestic mining industry have not yet been calculated, but AMC's coal-producing members estimate that the required reductions in utility sulfur dioxide emissions would cost over $6.2 billion per year. In addition, many, if not all, of our members would experience substantial increases in electricity costs. These costs would be imposed despite recent research and EPA analysis indicating that comprehensive acid rain legislation would provide few public health or environmental benefits.

Title III: Mobile Source Controls. The Subcommittee bill would mandate federal regulation of fuels and impose excessive requirements for mobile source control. For example, the bill would require desulfurization of diesel fuel, thereby increasing the cost of such fuel to the mining industry by over five cents per gallon, notwithstanding the very small contribution of this source to sulfur dioxide levels in the atmosphere.

Title IV: Ambient Air Standards. This title would require EPA to adopt new ambient standards for sulfur dioxide, particulates, acid aerosols, nitrogen oxides, ozone and carbon dioxide. Such a radical departure from existing requirements of the Clean Air Act would inject Congress directly into the complex scientific and technical judgments best left to the expertise of EPA and its scientific advisors. It would also subvert the detailed standard-setting process developed over the past two decades to ensure careful evaluation of scientific issues by EPA, the Clean Air Scientific Advisory Committee and the public. EPA has estimated that just one of the required new standards could cost $5 billion annually.

Title V: Hazardous Air Pollutants. The Subcommittee bill would list a very large number of substances as hazardous air pollutants and require EPA to develop interim standards to control them. These standards would have to limit lifetime risk to at least one in a million without any consideration of the significance of the risk to public health. For the first time, standards could also be promulgated on the basis of nonhealth-related environmental concerns. This is a stark contrast to the existing Act, which focuses on significant risks to public health and recognizes that environmental effects should not be equated to public health concerns. Administrator Thomas testified that such an approach could force thousands of industrial facilities to close, with consequent economic and social disruption.

API

American Paper Institute
ENVIRONMENTAL & HEALTH PROGRAM
National Forest Products Association

NFPA

1250 Connecticut Avenue, N.W., Washington, D.C. 20036

Robert C. Kaufmann
Director, Air Quality Program
202-463-2588

August 31, 1987

The Honorable George J. Mitchell
Chairman
Subcommittee on Environmental Protection
Committee on Environment and Public Works
United States Senate
Washington, D. C. 20510

Dear Mr. Chairman:

The American Paper Institute and the National Forest Products Association (API/NFPA) respectfully submit the attached comments on the Committee Working Paper amending the Clean Air Act for the records of the hearings in June and July of this year before the Subcommittee on Environmental Protection of the Senate Committee on Environment and Public Works.

We appreciate the opportunity to offer these comments for the record.

Respectfully submitted,

Robert C Kaufmann

Robert C. Kaufmann

RCK:js

STATEMENT ON
JULY 29, 1987 COMMITTEE WORKING PAPER
AMENDING THE CLEAN AIR ACT

By the
AMERICAN PAPER INSTITUTE
and the
NATIONAL FOREST PRODUCTS ASSOCIATION

Presented to the
SUBCOMMITTEE ON ENVIRONMENTAL PROTECTION
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
of the
UNITED STATES SENATE

AUGUST 31, 1987

The following comments on the July 29, 1987 Committee Working Paper containing proposed amendments to the Clean Air Act are offered on behalf of the member companies of the American Paper Institute and the National Forest Products Association (API/NFPA), manufacturers of pulp, paper, paperboard, and numerous solid wood products. The member companies own and operate hundreds of facilities which would be affected by the proposed amendments to the Clean Air Act.

The comments reflect our belief that, for the most part, the existing mechanisms of the Clean Air Act are already working effectively to control air pollution. It is also our belief that many of the provisions of the proposed Clean Air Act amendments are not based on sound scientific principles and unnecessarily undermine the existing regulatory development efforts of the Environmental Protection Agency (EPA) and its independent advisory group, the Clean Air Scientific Advisory Committee of the Science Advisory Board. Our specific comments appear below, arranged by title according to the format of the Committee Working Paper.

TITLE I

Title I of the Working Paper would mandate new requirements for nonattainment areas unable to meet national ambient air quality standards for ozone and carbon monoxide by the current Clean Air Act December 31, 1987 deadline.

Although we support the concept of granting extensions to areas making "good faith" efforts to attain the ozone and carbon monoxide standards, we believe that the provisions of the current Clean Air Act, including the New Source Performance Standards required under Section 111 and the Reasonably Available Control Technology (RACT)/Lowest Achievable Emission Rate (LAER) requirements of Part D, will bring the great majority of the existing nonattainment areas into compliance within a reasonable time without the need for many of the controls that would be mandated under the provisions of the Committee Working Paper. As EPA Administrator Lee Thomas testified before your Subcommittee, all but the very worst ozone nonattainment areas will come into compliance within five years -- without the need for any further controls -- because of the newly proposed gasoline volatility controls, onboard controls to capture vehicle refueling emissions, the existing Federal Motor Vehicle Control Program, and tighter enforcement of other existing measures. We agree with Administrator Thomas that the proposed Committee Working Paper amendments would thus lead to costly pollutant overcontrol in many areas. By the time the proposed Title I provisions are implemented, most of the current 76 ozone nonattainment areas will have reached their compliance goal. For those few areas with serious ozone control problems, we would support a longer extension period with required implementation of cost-effective controls determined by the EPA Administrator.

Recognition must be given to sources that have already implemented RACT or LAER controls. Under the provisions of the bill, sources which had moved expeditiously to comply with the requirements of the 1977 Clean Air Act amendments would nevertheless be subject to the same disruption and penalties as uncontrolled sources. This gross inequity would severely damage the credibility of the program by penalizing "good faith" participants. It would be unfair to penalize existing well-controlled sources.

Specific provisions of Title I would be particularly troublesome. In particular, we wish to address the prohibition on the use of "bubbles", the redefinition of a "major source" in an ozone nonattainment areas as one emitting 25 tons per year or more of either volatile organic compounds (VOCs) or nitrogen oxides (NO_x), the requirement for RACT or LAER on existing or new sources of NO_x, offsets for NO_x emissions, percent reductions of NO_x and VOC emissions, and the creation of ozone transport regions.

We support the EPA's current use of the bubble policy as a mechanism to encourage cost-effective environmental progress by allowing modernization and growth. The prohibition on the use of bubbles would force many facilities, especially smaller ones operating in competitive markets, to forego growth plans and perhaps shut down because of the inflexibility of new controls.

The redefinition of a major source in nonattainment areas to include ones emitting as little as 25 tons/year of either VOCs or NO_x would force many small sources to bear the burden of expensive controls. The inclusion of NO_x in this major source definition and those for RACT and LAER is not based on sound scientific principles. The role of NO_x in ozone formation is not yet understood; in some situations NO_x acts as a scavenger of ozone, actually reducing concentrations. There are few NO_x control technologies that could be applied, especially in the case of smaller sources. Moreover, whether NO_x controls would have any appreciable impact on reducing urban ozone levels is purely speculative. The state and local air pollution community, as represented by STAPPA/ALAPCO, has requested EPA to conduct studies on the role of NO_x in ozone formation. Until such studies are completed, the inclusion of NO_x controls in Title I is, at best, premature. The requirements for significant percent reductions of VOC and NO_x in nonattainment areas will be difficult if not impossible to obtain. Sources which have already reduced emissions will not be able to comply without production curtailment. The technology for NO_x controls for existing sources has not been developed.

Similarly, the creation of ozone transport regions also lacks basic scientific underpinnings. The EPA has recognized in its recent comments on Vermont's visibility State Implementation Plan (52 Fed. Reg. 27569, July 22, 1987) that its dispersion models are inadequate to characterize the nature and severity of the transport problem. In further recognition of this fact, EPA has made a commitment to a multi-year regional-scale study, Regional Ozone Modeling for Northeast Transport (ROMNET), of pollutant transport across the northeast to identify the exact contribution of the transport of ozone and its precursors to the Northeast Corridor's ozone problem. This study will test alternative regional scale strategies for ozone control. The arbitrary identification of ozone transport regions prior to completion of this study undercuts EPA's scientific approach and is thus premature.

TITLE II

Title II, Acid Deposition Control, would establish further controls on emissions of sulfur dioxide (SO_2) and nitrogen oxides (NO_x) from all stationary sources (utility and non-utility) that qualify as fossil fuel fired steam generating units. If the Title II provisions are enacted, pulp, paper, and forest product companies would face increased costs of production due to states' control requirements on industrial emission sources and increased electricity costs resulting from utility pass-through of compliance costs. Yet there is no evidence that these measures would have any impact on reducing symptoms of "acid rain."

API/NFPA member companies support the continuation of existing Clean Air Act-mandated programs like the Section 111 New Source Performance Standards for utility and industrial power boilers. According to recent work funded under the National Acid Precipitation Assessment Program (NAPAP), total SO_2 emissions decreased by 18 percent between 1975 and 1985 despite an increase in the use of coal and petroleum products. Furthermore, current SO_2 emission levels are roughly equivalent to those found in 1920, and are down sharply from their peak just prior to promulgation of the Clean Air Act. The clear downward trend in SO_2 emissions since 1970 suggests that existing Clean Air Act/EPA programs are already providing the tools for effective management of SO_2 emissions. The provisions of Title II could lead to costly overcontrol of a pollutant which may not be a principal causal agent of "acid rain."

We also support the implementation of a clean coal technology program to insure a long-term, low pollution energy supply. The provisions of Title II would mandate decisions about SO_2/NO_x control options prior to completion of the clean coal demonstration projects. Boiler owner/operators should have available to them the full range of cost-effective control technologies that would result from these demonstration projects, and if further reductions are mandated on the basis of need, be permitted to select from all such technologies, as well as non-technological controls.

TITLE III

Title III, Mobile Source and Other Federal Controls, would amend the Clean Air Act to add new vehicle emission standards and establish VOC emission limitations for several product categories. Of particular concern to the API/NFPA member companies is the requirement for the EPA Administrator to promulgate regulations for commercial solvents. Whether regulation of individual source categories is justified is an area best left to the scientific staff at EPA. Uncontrolled miscellaneous source categories are already being examined by EPA for possible control guidelines, and regulations will be promulgated for source categories where reasonably available controls are available. In the case of commercial solvents, control technologies are most cost-effectively applied to major sources where control costs are warranted by the resultant emission reduction. Regulations for major sources of solvent emissions have already been promulgated. Smaller sources of solvent emissions have not been regulated to date because of the lack of suitable control techniques, the lack of solvent substitutes, and the costs associated with solvent control/recovery. Several states, including California, have considered regulation of commercial/consumer solvent emissions primarily through reformulation, and have decided against controls for economic and technological reasons.

TITLE IV

Title IV, Ambient Air Quality Standards, would amend the Clean Air Act by adding new National Ambient Air Quality Standards (NAAQS) for ozone, SO_2, nitrogen dioxide, carbon monoxide, fine particulates, and acid aerosols. The API/NFPA member companies fully support the promulgation of new and revised NAAQS when warranted by human health or public welfare reasons. The existing Clean Air Act process charging the EPA Administrator with the review and revision of existing standards and/or the promulgation of new standards, in both cases with the assistance of the independent Clean Air Scientific Advisory Committee (CASAC), is already operating effectively. EPA is already considering promulgation of new or revised NAAQS for several of the pollutants proposed for regulation in Title IV; to date, none have been regulated because the scientific basis was lacking. Thus, API/NFPA members believe that the provisions of Title IV would substitute legislative fiat for scientific deliberation, determination, and review, and revoke the EPA Administrator's authority vested under the current Clean Air Act. The decision to establish new or revised ambient air quality standards should be based on scientific evidence and left to rulemaking by EPA with the assistance of the impartial scientific community. To substitute Congressional judgment for that of EPA's experts and those of the scientific community is, in our opinion, very poor public policy.

TITLE V

Title V, Hazardous Air Pollutants, would amend the Clean Air Act to define technology-based and health-based standards for hazardous air pollutants, and determine procedures for preventing sudden, catastrophic releases of regulated substances. Congress should not support the aims of the program but strongly object to the provisions of Title V as now written. API/NFPA members believe that the same reliance on good science that we have discussed above should determine the identification of hazardous air pollutants, the means for assessing the risks arising therefrom, and the feasible means for preventing their occurrence or minimizing their impact. In view of this, we believe the proper role of Congress should be to clearly define the authority of EPA to establish appropriate controls based on good science. The risk assessment procedures which are beginning to be used by several agencies including EPA promise to greatly improve the scientific basis for decision-making in the future. The substitution of Congressional will, not supported by sound science, is again, in our judgment, poor public policy. Congress could enter the debate in a more constructive way by defining hazardous air pollutants as chemical, physical, or biological agents for which there is statistically significant evidence based on clinical or epidemiologic study conducted in accordance with established scientific principles that acute or chronic health effects have occurred in exposed individuals. Such terms include chemicals that are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatoxins, nephrotoxins, neurotoxins, agents that act on the hematopoietic system, and agents that damage the lungs, skin, eyes, or mucous membranes. Congress then might insist that, in identifying the populations at risk, the following factors based upon the best available scientific evidence should be considered by EPA:

(A) The amount of supporting evidence that the substances to be listed are causal factors in chronic illnesses or long-latency diseases;

(B) The synergistic or antagonistic effects of the substances (in relation to diet or smoking, for example);

(C) Other medical, health, and epidemiological factors, including consistency of association, specificity of association, strength of association, dose-response relationships, biological plausibility, temporal relationships, and statistical significance, and the health consequences of regulating or failing to regulate this hazardous air pollutant; and

(D) The extent to which risk has been or could be reduced as a result of the promulgation of an applicable substance-specific health standard.

However, API/NFPA members oppose the listing of specific substances by Congress without a sound scientific basis. Evaluation of hazardous and toxic air pollutant risks is a process that is best left to professional scientists knowledgeable in the fields of risk assessment and risk management. Title V would supersede recently enacted legislation, including the Superfund Amendments, TSCA, and FIFRA. In the case of provisions of existing legislation like the Community Right-to-Know sections of SARA, the information-gathering has just begun, and it is premature to make listing decisions until all information has been reviewed. The EPA Administrator should make the ultimate determination of substances to list, again with the assistance of the independent scientific community. Congress should not.

Aside from these general comments about Title V, we would like to offer comments on specific Title V provisions contained in the Committee Working Paper. Title V contains rules for setting emission standards for possible/probable human carcinogens at a level such that the risk of carcinogenic effects to the "most exposed individual" is not more than one in a million. This provision would set an unfortunate precedent by denying cost and technological considerations in standard setting. An analysis of recent EPA and other Federal regulatory decisions (May, 1987 Environmental Science and Technology, VOL. 21, #5, Page 415, "Cancer Risk Management: A Review of 132 Federal Regulatory Decisions") found that such agencies traditionally considered economic and technological feasibility when deciding whether to regulate substances with risks to the most exposed individual between one in ten thousand and one in a million. API/NFPA member companies support the continuation of this risk management philosophy, and believe that its sanction is an appropriate Federal role.

The provisions in Title V requiring a detailed hazard assessment for any listed substance present in more than threshold quantities at a facility would not insure that releases would not occur. Similarly, the required monitoring for the presence of any listed substances in the ambient air in the vicinity of a facility would not significantly improve the public's protection over that provided by an expert scientifically conducted site evaluation and risk assessment. In many cases, sampling protocols, techniques, and equipment have not been developed. Without them, regulations could not be implemented or enforced. Results from one source to another would not be comparable, progress could not be measured, nor results detected.

We appreciate the opportunity to submit these comments on the proposed amendments to the Clean Air Act. We look forward to working with the Committee as the legislation receives further consideration.

1987 Proposed Clean Air Act Amendments
Omnibus Clean Air Working Paper
Summary of Issues and Impacts
Affecting
Basin Electric Power Cooperative
August 1987

The U.S. Senate Subcommittee on Environmental Protection has developed an Omnibus working paper which was introduced to establish the basis for the most comprehensive change in the Clean Air Act since its last major revision in 1977. This working paper encompasses nearly all of the separate air quality issues which have been the focus of previously introduced bills before the U.S. Congress.

This working paper specifically addresses the issue of air quality nonattainment, acid rain precursors, pollution from mobile sources, ambient air quality standards and hazardous and toxic air pollutants. Basin Electric has evaluated each component of the working paper and has identified specific issues which will have a negative impact on the the Cooperative and its membership.

The proposed legislation, if enacted would penalize those regions of this country which have constructed facilities with the most advanced pollution control systems and favor those regions with the most uncontrolled and polluting facilities. It fails to recognize the millions of dollars invested in state-of-the-art facilities built after 1980 and built pursuant to the technology forcing requirements of the Clean Air Act and its amendments. It also fails to recognize the large growth in coal-fired power production since 1980 for our region.

If this legislation is approved, many utilities in our region would have to shut down their existing coal-fired electric generation as a result of the proposed legislation for nitrogen oxides (NOX).

The following are some of the key issues affecting Basin Electric and our suggested revisions:

1. The National Acid Precipitation Assessment Program (NAPAP) 1986 report, in studying acid deposition over the entire nation, has found that the area of major concern is the states east of the Mississippi River. This legislation unfortunately affects most harshly that area in which there has been no evidence of an acid deposition problem--the West. The proposed sulfur dioxide and nitrogen oxide emission reduction requirements should apply only to the states east of the Mississippi River.
2. The proposed reductions for nitrogen oxides (NOX) do not give credit for boilers already incorporating current technology to minimize the formation of NOX. Basin Electric's 900,000 KW Antelope Valley Station located near Beulah, ND, and the 1,650,000 KW Laramie River Station located near Wheatland, WY, already incorporate this technology and; therefore, would

not be able to further reduce NOX by burner modifications, and; therefore, could not meet the proposed legislation.

Regarding North Dakota, its coal-fired electrical generating capacity has increased by approximately fifty percent since 1980. The proposed legislation would require a reduction to less than the total statewide 1980 emissions for both sulfur and nitrogen oxides. This severely affects North Dakota, Wyoming and other western states which experienced energy growth in the early 1980s. If emission reductions are required in the West, then emission limitations should be based on statewide average emission rates expressed as pounds per million British thermal units (Btu) for all sources rather than the proposed reduction in emissions below 1980 levels.

3. If our above proposal for an emission rate rather than an emissions cap is not instituted, then it is most important that in determining each State's share of the total nitrogen oxide emissions to be reduced, that only those emissions that exceeded 0.6 pounds of NOX per million Btu be included. Sources meeting this emission rate should not require further reduction. This would be consistent with the proposed concept for reducing total sulfur dioxide emissions. Furthermore, it is important that the baseline year be 1985 rather than 1980 to account for the increased growth experienced between 1980 and 1985.
4. The proposed reductions in NOX emissions would severely affect North Dakota utilities using cyclone-fired boilers. Approximately forty percent of the electricity generated in North Dakota, including Basin Electric's 440,000 KW Leland Olds Unit 2, is produced from "cyclone-fired" boilers which cannot be modified to reduce nitrogen oxide emissions as is possible with "pulverized coal" boilers. A cyclone boiler must operate at very high temperatures which results in higher levels of nitrogen oxides than that produced in a pulverized-fired boiler. We propose that cyclone boilers be exempt from the nitrogen oxide reduction requirements. The major utility market for cyclone-fired boilers during the past twenty years has been North Dakota lignite. They were purchased as a better method of burning this high ash fouling lignite prior to recent advances in pulverized-fired boilers. There is no commercially available process in the United States today to scrub nitrogen oxides from flue gas after they have formed during combustion. Without these exclusions for cyclone boilers, the rural residents and the State of North Dakota would be caused undue hardship.
5. Other provisions of the proposed legislation would require the Environmental Protection Agency (EPA) to develop additional ambient air quality standards and extensive regulations regarding hazardous and toxic air emissions. We cannot determine their impacts at this time because of the general nature of these sections. However, the release of hazardous substances is already regulated under the Emergency Planning and Community Right-to-Know Act of 1986.
6. Title I severely restricts sources in areas which exceed the ozone ambient air quality standards. Although North Dakota, and other western states are not designated as an ozone nonattainment area, the proposal would allow the Environmental Protection Agency to extend the area of restricted sources to areas that they determine impact ozone nonattainment areas. If

this concept of extending areas beyond the nonattainment areas is implemented, it should be expressly limited to only those sources within 50 kilometers of the designated nonattainment area.

In addition to our proposed changes, North Dakota should seek to modify the Class I Prevention of Significant Deterioration of air quality legislation as the current law essentially prevents future development of the state's lignite. The Class I limits are so minute that the incremental increases cannot be measured accurately with monitoring equipment. A new source must demonstrate compliance with the use of air dispersion modeling on a computer. Basin Electric offers a revision to the existing Clean Air Act to limit the distance from an emission source which must be modeled for Prevention of Significant Deterioration of air quality. Neither the Act nor the regulations specify a distance limitation. EPA states the application of air dispersion models should be limited to areas within 50 kilometers of a source. Including sources from greater distances results in great uncertainty of such model estimates. Models have been used for evaluating impacts beyond 50 kilometers; however, no such model has been verified or validated. The use of air dispersion models to predict air quality impacts for short-term periods (three hours and 24 hour averages) greater than 50 kilometers from a source is not appropriate. Therefore, we propose that Part C, Section 165(a) of the Clean Air Act limit air quality impact analysis to within 50 kilometers of a facility.

Below is a more detailed review by title of the proposed Clean Air Act Amendments and their impacts on Basin Electric.

Title I - Requirements for Nonattainment Areas

Issues

Section 103 establishes ozone transport regions which include the nonattainment states. It also provides EPA with the power to expand the "ozone regions". Should EPA determine that sources outside the region are affecting nonattainment regions, those sources can be subject to similar emission control limitations as the nonattainment regions.

Impacts

Section 103 of Title I could present a significant impact to North Dakota and Basin Electric. While North Dakota does not have designated nonattainment areas, its "upwind" pollutants could be determined to adversely influence attainment efforts in states east and southeast. Should EPA determine that North Dakota or Wyoming emissions adversely impact attainment efforts in the nearest ozone region, additional emission restrictions and other provisions similar to the nonattainment area requirements could be mandated for such states as North Dakota and Wyoming.

Recommendation

EPA should be restricted to consideration of sources that are within 50 kilometers of the boundary of any designated nonattainment area.

Title II - Acid Deposition Control

1. Baseline emissions of 1980

Issue

By 1996, total U.S. emissions of sulfur dioxide (SO2) and nitrogen oxides (NOX) would be reduced annually by 12 million and 4 million tons respectively from the baseline of 1980 emissions (Section 181).

Each state would have to reduce emissions to the 1980 level, then further reduce emissions to contribute to its proportionate share of the total reduction in emissions. Thereafter, sources may not increase emissions and no additional sources may operate unless other sources within that state reduce their emissions to offset a new source.

Impact

Even though Basin Electric has employed the latest control technology on all of its recent capacity additions, our reported North Dakota emissions of SO2 increased by 81% from 1980 to 1985 and the NOX emissions increased by 70%. The total North Dakota SO2 emissions increased by 58% and the NOX by 81% during this period. We estimate that North Dakota would have to reduce SO2 emissions by about 60% and NOX emissions by about 55% to meet the emissions cap. Basin Electric's share of the reductions would be nearly proportional.

To meet the proposed SO2 emissions cap, Basin Electric would have to install a scrubber on at least one of the two unit 650,000 KW Leland Olds Station. Additional reduction would also be necessary at our 900,000 KW Antelope Valley Station. If the base year were changed to 1985, the Leland Olds Station would have some flexibility to either burn out of state low sulfur coal or retrofit a scrubber on one of the units.

However, to meet the proposed NOX emissions cap, we would have to shut down both units at the Leland Olds Station. Changing the base year to 1985 would still require shutting down one unit.

The first of the three units at the Laramie River Station became commercial during 1980. We already have SO2 emissions much lower than federal standards and we have no other generation to offset SO2 emissions. Likewise, these boilers already incorporate the latest burner control technology to minimize the formation of NOX. We are very doubtful that we could find other sources in the state who could make reductions to allow our units to operate, and therefore, could be faced with total abandonment or greatly curtailed operation of this 1,650,000 KW station.

Recommendation

We disagree with the proposed "no-growth" emissions cap. Emission limitations should be based on statewide average emission rates from all stationary sources of not less than 0.9 pounds SO2 per million Btu and 0.6 pounds NOX per million Btu. However, if an emissions cap is legislated, the baseline year needs to be updated to 1985 to meet the SO2 requirement. Even this would require shutting down one of our units because of the NOX emissions cap. The total sulfur dioxide emissions for power plants in the United States decreased from 1980 to 1985, according to data from the National Coal Association. Coal consumption by power plants increased by 53% in the western states from 1980 to 1985 but only 9% in the East. It is unreasonable to reduce emissions from facilities built since 1980, let alone further reducing emissions below the 1980 level.

2. Applicability to all sources

Issue

Part E, Section 182 limits statewide average emissions for all major stationary sources that are fossil-fuel fired steam generating units and requires the reduction of 12 million tons per year sulfur dioxide emissions from utility emissions.

Impact

The proposal would put the entire burden of emission reductions on utilities and limit the emission rates for only fossil-fuel fired steam generating units. All stationary sources should share in the reduction of sulfur dioxide emissions.

Recommendation

Revise Section 182(a) to apply to all major stationary sources, deleting the words "that are fossil-fuel fired steam generating units".

Revise Section 182(b)(1)(B)(i) by replacing the reference to "utility emissions" with "stationary source".

3. NOX reductions

Issue

Section 182(b)(1)(B)(ii) would require reduction of NOX from all sources, regardless of their existing emission rate.

Impact

New sources such as the three units at the Laramie River Station and the two units at the Antelope Valley Station are already designed for minimum NOX emission rates. It is not practicable or feasible to further reduce emissions from such sources.

Recommendation

We disagree with a "no growth" emissions cap. However, any NOX emissions reduction plan should apply only to emissions exceeding 0.6 pounds of NOX per million British thermal unit (Btu) of heat input.

4. Exempt cyclone boilers

Issue

Cyclone boilers do not lend themselves to reducing NOX by boiler combustion modifications. Nitrogen oxides formation increases at high temperatures when nitrogen in the air and in the fuel react with oxygen in the air. Pulverized coal boilers manufactured prior to the mid-1970s can be designed or modified to reduce peak flame temperatures. Cyclone boilers require high temperature combustion to take place within the cyclone burners which are external to the boiler. The process requires the high temperature to collect and melt the ash so it can be removed as a molten stream of slag.

Impact
Approximately 40% of the current electrical generating facilities in North Dakota have cyclone boilers making it impossible to reduce NOX emissions as would be required by this legislation.

Recommendation
Title II, part E should exempt existing cyclone boilers from requirements for NOX reduction.

5. Clean coal technology applicable for all sources

Issue
The $2.5 billion clean coal technology selection criteria (Section 193(d)) would require projects to reduce transboundary movement of air pollutants to areas within Canada and uses funding criteria based on the amount of pollutants removed per dollar of expenditures.

Impact
This section biases the $2.5 billion funding to support eastern facilities and eastern coal suppliers at the expense of the entire United States. The funding would not be applicable to North Dakota or Wyoming which have low sulfur coal and little if any transport of air pollutants into Canada. Criteria based on the greatest amount of sulfur removed per dollar of expenditures will result in the funding going to the high sulfur coal user.

Recommendation
If all states must reduce sulfur dioxide emissions, then clean coal technology funding should be available for any source throughout the country which is required to reduce emissions even if the emissions are already relatively low and have little potential of impacting the sensitive areas of Canada.

6. Exempt states west of the Mississippi River

Issue
The working paper would require emission reductions in all states, and unlike the clean coal technology section, regardless of the sources' potential impact on acid deposition in Canada.

Impact
The working paper requires emission reduction in the West even though the western sources already have emissions much lower than the eastern states through use of lower sulfur coal and scrubbers. According to the National Acid Precipitation Assessment Program 1985 annual report to the President and Congress, the states west of the Mississippi River contributed only 17% of all man-made sources of SO2 in 1980 and only 7% of electric utility emissions. According to the National Coal Association figures, 40% of the western power plants had SO2 scrubbers in 1985, while only 10% of the eastern plants had scrubbers. In North Dakota, 78% of the electrical generating capacity currently has SO2 scrubbers.

Recommendation

The proposed Title II, Part E should apply only to the states east of the Mississippi River and exempt the western states.

Title III - Mobile Sources and Other Federal Controls

Issues

The various sections of the Title III are directed at the control of emissions for automobile manufacturers. Emission standards are established along with specifications for motor fuels. An additional section addresses hydrocarbon emission controls and proposes establishment of emission limitations and standards of performance.

Impacts

Title III will increase our cost of providing electricity since the requirements for new vehicles and fuels will increase the cost of vehicles, vehicle servicing, fuels, and fuel handling. A greater impact will be the increased cost of our farm, commercial and industrial consumers in operating their businesses.

Recommendation

We offer no alternative proposals at this time to lessen the impact of the Title III provisions on Basin Electric or the businesses operated by our consumers.

Title IV - Ambient Air Quality Standards

Issue

This section directs the reworking of the criteria documents upon which the current ambient air quality standards are based with the intent of looking at the low level health effects. The five pollutants for which additional standards are proposed include: sulfur dioxide, oxides of nitrogen, ozone, carbon monoxide, and 2.5 micron-size particulate matter.

Impact

We need more information such as the proposed standards before commenting.

Recommendation

We believe that this section is not necessary because the Environmental Protection Agency (EPA) is already authorized to revise ambient air quality standards as deemed necessary.

Title V - Hazardous and Toxic Air Pollutants

Issue

Title V is defined as the Toxic Air Pollution Control Act of 1987. It totally redefines the scope of prior regulation to control toxic and hazardous emissions by proposing a new toxic and hazardous emission control program.

The definitions of sources subject to evaluation and control under Title V incorporate virtually every industrial process and their various emission sources. Also proposed is a list of hazardous substances for which emission standards are to be established which includes arsenic, asbestos, benzine, beryllium, coke oven emissions, mercury, radionuclides, vinyl chloride, acrylonitrile, butadiene, cadmium, carbon tetrachloride, chloroform, chromium, ethylene dichloride, ethylene oxide, methylene chloride, perchloroethylene, and trichloroethylene. Broad latitude is given to EPA to expand this list.

For new sources, consideration will be given to all listed toxic and hazardous pollutants in issuing construction permits. Existing sources will be required to certify their compliance with the emission standards. Exemptions from the standards may be granted where no technology exists for controlling the source. However, the exemption is to be short-term.

Specific toxic air pollutants are to be listed in a similar manner as the hazardous substances. These include, but are not limited to, each chemical or substance subject to the requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986. Additional provisions address sudden releases, hazard assessments, audits and safety inspections for certain sources.

Impacts

It is difficult at this time to quantify the impact such proposal would have on Basin Electric or its farmers, commercial and industrial consumers. The definition of a hazardous pollutant as stated on pages 76 and 77 could mean nearly any compound for which an adverse health effect has been or could be linked. The toxic substances list as proposed under this bill includes radionuclides and trace elements. While coal-fired power plants are not specifically identified as a listed source of toxic and hazardous air pollutants, the source definition in Title V leaves the door open for their consideration and evaluation for listing as a source.

Title V will eventually lead to emission standards and will create liability for emitters since the pollutants are to be linked with the Emergency Planning and Community Right-to-Know Act of 1986. The bill provides for an extensive procedure for identification and listing of substances that will come under the provisions of Title V. When standards are established, extensive controls will be required without consideration of cost or economic impact. Construction permits will not be issued for point and area sources that cannot meet the standards. Exceptions exist but they appear impossible to obtain.

Recommendation

Delete Title V. We believe that the Emergency Planning and Community Right-to-Know Act of 1986 adequately regulates releases of hazardous substance. This law would be a duplicative effort.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

ALAMEDA COUNTY
Edward R. Campbell
Shirley J. Campbell
Frank H. Ogawa
(Chairperson)
Don Perata

CONTRA COSTA COUNTY
Paul L. Cooper
Sunne Wright McPeak

MARIN COUNTY
Al Aramburu
Eric Chapman

NAPA COUNTY
Harold I. Moskowite

SAN FRANCISCO COUNTY
Harry G. Britt
Jim Gonzalez

SAN MATEO COUNTY
Gus J. Nicolopulos
Anna Eshoo

SANTA CLARA COUNTY
Rod Diridon
Ralph P. Doetsch, Jr.
(Secretary)
Roberta H. Hughan
Susanne Wilson

SOLANO COUNTY
Osby Davis

SONOMA COUNTY
Helen B. Rudee

August 14, 1987

Honorable George J. Mitchell
Congressional Delegation
U.S. Senate Offices
Washington, D.C. 20515

Dear Senator Mitchell:

The Board of Directors of the Bay Area Air Quality Management District is closely following discussions in Washington concerning proposed amendments to the Clean Air Act. They have unanimously adopted a set of general principles which are designed to ensure continued progress toward attainment of clean air goals. I am enclosing a copy of these principles for your information, and express the Boards urging that they be considered in legislation you and your Committee are preparing for amendments to the Clean Air Act.

Sincerely,

Milton Feldstein

Milton Feldstein
Air Pollution Control Officer

MF:gp

Enclosures

939 ELLIS STREET • SAN FRANCISCO, CALIFORNIA 94109 • (415) 771-6000

FEDERAL CLEAN AIR ACT

STATEMENT OF PRINCIPLES

Amendments to the Clean Air Act must be consistent with the following principles to be fully acceptable.

1) The primary criteria of the Act should be to require attainment in each area as rapidly as possible. The specific attainment date in each area should be based on the degree of difficulty in reducing emissions from current levels to a level which will result in attainment.

2) The Act should provide specific control requirements, calibrated to the severity of an area's air quality problems. Areas with more severe problems should have higher control requirements. Areas with similar air quality problems should have control requirements of the same overall stringency. Increments of progress and the time period in which they are to be achieved should be specified in the Act.

3) In addition to the specific control requirements listed in the Act, nonattainment areas should submit plans that demonstrate progress in reducing ambient

pollutant concentrations over a specified time period reflecting attainment as rapidly as possible. These plans may require a level of control more stringent than the control requirements described above. Nonattainment areas which carry out the plan but fail to achieve the specified increment of progress must make up the deficiency with additional controls. Nonattainment areas which take extraordinary efforts to attain the air quality standards should receive preferential federal financial support as appropriate to assist them.

4) The Act must recognize that in most areas of the nation experiencing nonattainment problems, growth and transportation are a very significant cause of the problem. Federal guidance and incentives in dealing with the transportation related aspects of air quality problems must be a priority. Nonattainment areas where growth and transportation are significant contributors to the problem, should receive increased federal support to develop transportation control measures to deal with the problem.

5) Sanctions should be imposed for failure to meet specified control requirements, submit a nonattainment plan, and/or to carry out controls specified in the nonattainment plan. The severity of

sanctions should be tailored to the degree of failure to meet the standards. Sanctions should be imposed on nonattainment areas which fail to try to meet the standards, not on areas which have tried to meet the standards but have failed to do so after the imposition of all required control measures.

6) Areas should not be held solely responsible for nonattainment primarily caused by anthropogenic pollutants transported from other areas. "Upwind" areas should be held responsible for the effect of their emissions on "downwind" areas. The Act should require and establish procedures for EPA to address and resolve interstate transport. Downwind nonattainment areas, however, should be required to adopt all reasonably available control measures.

7) California should retain full authority to control motor vehicles and vehicle fuels.

8) The Act should establish federal new vehicle standards, new vehicle compliance requirements and criteria for enhanced auto inspection and maintenance. The date for final compliance of these measures and minimum increments of progress for EPA action should be established in the Act.

CMA

CHEMICAL MANUFACTURERS ASSOCIATION

WRITTEN STATEMENT OF THE
CHEMICAL MANUFACTURERS ASSOCIATION

TO THE
SUBCOMMITTEE ON ENVIRONMENTAL PROTECTION
OF THE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

REGARDING THE PROPOSED
CLEAN AIR STANDARDS ATTAINMENT ACT OF 1987
AS ADOPTED BY THE SUBCOMMITTEE:

TITLE I - REQUIREMENTS FOR NON-ATTAINMENT AREAS

TITLE IV- AMBIENT AIR QUALITY STANDARDS

TITLE V - HAZARDOUS AIR POLLUTANTS

AUGUST 28, 1987

2501 M Street, NW • Washington, DC 20037 • Telephone 202/887-1100 • Telex 89617 (CMA WSH)

EXECUTIVE SUMMARY

The Chemical Manufacturers Association (CMA) appreciates the opportunity to submit this written testimony on the Clean Air Standards Attainment Act of 1987, proposed to amend the Clean Air Act. CMA is a nonprofit trade association whose member companies represent more than 90% of the productive capacity of basic industrial chemicals in this country.

CMA believes that the proposals contained in the Clean Air Standards Attainment Act (called the "committee working paper") are unnecessary. If the proposals are carried forward, the end result would be less focus on primary threats to human health, not more. We urge that all sections of the paper be reconsidered, both individually and in relationship to each other. We also urge that there has been inadequate consideration of the effects of the proposed controls on stationary sources, particularly in regard to emissions of volatile organic compounds (VOC) and oxides of nitrogen (NOx).

CMA has reviewed in detail Titles I, IV, and V of the committee working paper, and that analysis follows. The major concerns we have are summarized below:

- In Title I, proposed controls for VOC and NOx emissions in ozone nonattainment areas are overly broad and may be counterproductive. There is no mechanism for dealing with areas on a case-by-case basis. Instead, an arbitrary and probably unattainable level of control is required.
- Regarding Title V, there is no reason to alter the focus of Section 112 of the Clean Air Act, which is protection of public health. EPA should have discretion to determine which substances and which sources pose the greatest risk and to design a control program to minimize that risk.
- EPA, not Congress, is better equipped to determine, what represents an acceptable risk on a case-by-case basis. Emissions of all hazardous air pollutants should not be automatically prohibited. The major economic and social dislocations which could result from the Title V proposal have not been adequately considered.
- The proposals for dealing with sudden, catastrophic releases are a waste of resources. EPA and other federal and state agencies already have authority to investigate and work to prevent accidents. It is unrealistic to believe that, simply by creating another administrative bureaucracy, legislation can prevent accidents. Industry has every incentive to prevent accidental releases of hazardous substances. The Board created in Title V is unnecessary.

COMMENTS ON TITLE I: REQUIREMENTS FOR NON-ATTAINMENT AREAS

General

The Clean Air Act requires that all areas of the country attain the primary National Ambient Air Quality Standards (NAAQS) by December 31, 1987. Failure to do so may lead to the imposition of severe sanctions. For example, the Administrator of EPA may require that all federal funds for transportation projects and construction of sewage treatment facilities be cut off, or may impose a ban on the issuance of permits for construction of major new sources or major modifications to existing sources in nonattainment areas.

The chemical industry would be significantly impacted by the proposed provisions of Title I. Over 60% of chemical industry facilities are in nonattainment areas and CMA members have estimated that as many as six sites per company could be affected by a construction ban. The chemical industry is the third largest manufacturing industry in the United States, has over 1,000,000 employees and maintains a favorable balance of trade. Imposing a ban on construction and modernization at this time could seriously limit "the economic positions of the chemical industry."

Deadline Extensions

Four inflexible deadline extensions are provided for in the committee working paper, each with different conditions. Depending on the deadline extension period to which a nonattainment area is assigned at the time of enactment, SIP modifications may be required to incorporate certain minimum controls. This approach does not allow for any case-by-case evaluation. An area may be required to adopt stringent controls because of ozone levels that resulted from short, abnormally hot weather rather than excessive precursor emission levels. There is not any system in the committee working paper to allow for consideration of appropriate controls on a case-by-case basis, taking into account emission sources, existing control measures, meterological conditions, and other factors.

Extension Conditions

In areas eligible for an extension of the deadline, the state must submit a SIP revision within an extremely short time showing implementation of specific control measures listed in the Act. The longer the extension, the more stringent the required control measures become. For example, in areas that need more than a five year extension, overall emissions of hydrocarbons and oxides of nitrogen would have to be reduced incrementally so that by 1997 at least a 65% reduction from 1987 levels is achieved. In addition to areawide reductions, each major stationary source would be required to reduce emissions by the same percentage.

The concept of increasing percentage reduction targets in succeeding years (i.e., 33% in 1991, 50% in 1994, 65% in 1997 and 15% every three years thereafter) is meaningless when applied to individual sources. The implication that an individual source can adjust the level of reduction is simply wrong, and installation of increasingly stringent controls every three years would be a waste of resources. To require these reduction requirements of individual sources strips states of their responsibility to determine the most cost effective mix of controls for a particular area; penalizes those sources that may have already accomplished significant emission reductions; and fails to consider the differences between sources and the relative achievability of additional reductions.

A new tax of $100 per ton for any emissions of hydrocarbons or oxides of nitrogen is to be levied beginning January 1, 1993. This tax, to be levied on each stationary source, regardless of whether the source is in compliance or not, would potentially impact all businesses. In addition to burdening small industrial and commercial service establishments, the burden of collecting and enforcing this emissions tax would quickly overwhelm EPA.

Title I unnecessarily changes the definition of Reasonably Available Control Technology (RACT), taking away much of the discretion now vested in the states to determine the most appropriate control technology. The proposed definition of RACT is much closer to the present definition of Lowest Achievable Emission Rate (LAER). There is no need for every source to be controlled to a level equivalent to LAER. Significant emission reductions have been achieved by implementation of Best Available Control Technology (BACT) and RACT under the present law and these provisions should not be changed.

Title I also complicates the technology-based decision that EPA must make for RACT by mixing technology and health determinations. Taking into account the "toxic character" of emissions and the percentage reductions that may be needed in the nonattainment area should not be part of a technology-based decision and does not belong within the definition of RACT.

These proposed changes are especially onerous because bubbles would no longer be allowed for existing sources to help meet emission reduction targets in a cost effective manner. With a bubble, a facility has an incentive to implement controls on units where the greatest emission reduction can be achieved at the lowest incremental cost. Without a bubble, however, controls would be required for each unit regardless of cost. Prohibition of bubbles also would make the idea of offsets meaningless.

For areas with more than a five year extension, all sources would be required to reduce emissions of hydrocarbons and oxides of nitrogen by 65% by 1997. While the burden of this reduction for hydrocarbon emissions is enormous, it pales in comparison to what would be required to reduce NO_x emissions by the same amount. A 65% reduction of NO_x emissions cannot be achieved by simply retrofitting existing burners with low NO_x burners. Technology may not even be available to accomplish this goal, particularly in retrofitting existing sources. Furthermore, the atmospheric chemistry of NO_x, CO, HC, and ozone is not well understood. Severe reductions in NO_x emission levels may very well produce an increase in ambient CO levels. More consideration of these relationships is needed before requiring drastic percentage emission reductions which may, in effect, worsen rather than improve air quality.

Title I establishes emission reduction targets without consideration of whether the targets are feasible. To set a penalty equal to at least $5000 per ton for any emissions in excess of the target is unreasonable and disregards the achievability of these reductions. Section 120 of the Clean Air Act already provides for substantive penalties for some sources for any violations of compliance schedules. For those sources, this provision would result in a double penalty.

Ozone Transport Regions

Two ozone transport regions are created in this proposal: one including all the states east of the Mississippi and north of Virginia (with the exception of West Virginia and Rhode Island) and another including the four Great Lakes states. A commission would be established in each of the two regions whose sole purpose would be developing an attainment strategy for the region. The commissions would operate by majority vote, but there would be no incentive to release anyone, particularly the upwind states, cities or counties from these requirements. A regional commission is not an effective way to solve problems of individual states.

Regardless of attainment status, every area within both transport regions would be required to adopt at a minimum the revised RACT for existing sources. The commission can also recommend other measures it considers necessary and appropriate. Any state which fails to incorporate the commission's recommendations into its SIP would be subject to sanctions. This is a severe penalty for states and areas within a state that may already be in attainment.

Sanctions

The most significant change in the sanctions provisions is the prohibition of new discharges into POTWs for areas that have not submitted an acceptable plan or are not implementing the requirements of their plan. While this may serve as an incentive to implement provisions to reach attainment, it may exacerbate problems associated with surface water or groundwater quality which the local agencies are working to correct.

COMMENTS ON TITLE IV: AMBIENT AIR QUALITY STANDARDS

Required Revision of Ambient Air Quality Standards

Title IV requires the EPA Administrator to promulgate revised or additional ambient air quality standards for ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, fine particulates, and acid aerosols. PM_{10} increments are also required under Title IV. There are three major problems with the Title IV approach.

The first problem originates with Congress' substitution of their judgement for that of the scientific community that additional ambient air quality standards are necessary to protect public health. EPA, their contractors, the Science Advisory Board, the scientific community, and the public currently participate in the review of available scientific data to help determine the appropriate standard which will protect public health and the environment. Title IV's required revisions, in all cases to be more stringent than existing ambient air quality standards, are inappropriate and without scientific justification.

The second major problem with Title IV lies with determining its purpose and potential impact. For example, changing the ozone standard to be more protective of "subchronic human health effects" will only exaggerate the nonattainment problem and vastly increase the cost and impacts of the installation of LAER-type technology on stationary sources. EPA is presently reviewing the ozone standard including data on subchronic human health. This process needs to continue without interruption by Congress. Such interruption will only serve to delay the revision process.

The third problem is the addition of an acid aerosols standard and the required 1 hour SO_2 standard. We believe these standards are attempts to control precursor emissions leading to acid rain. We believe that the current Clean Air Act gives the Administrator sufficient authority to regulate acid rain precursors and that no additional legislation is necessary.

COMMENTS ON TITLE V: HAZARDOUS AIR POLLUTANTS

Summary

1. Title V expands the number of substances to be regulated and the number of sources to be regulated without any consideration of whether the substance or emission source presents a human health concern. Technology-based standards are to be developed for an automatic list of substances found in SARA Section 313 and the ATSDR substances in Section 104 of CERCLA. The automatic regulation of all major sources emitting all of these substances will lead to wasted EPA and state resources that dilute the focus which may be needed to address true hazardous air pollutant concerns.

2. Permits are required for every stationary source that emits a substance subject to technology-based or health-based standards. This provision includes new and modified sources as well as existing sources. This sweeping permit program will be extremely burdensome on EPA or state resources and the regulated community. In addition, the permit program is unreasonable because a source may not be able to modify a process while a permit is in the application or review stage. This unnecessarily limits any additional growth or modernization and could be counterproductive to the goal of reducing emissions of hazardous substances.

3. Legislatively establishing an interim emissions standard for possible or probable human carcinogens at a risk level of one-in-a-million for the most exposed person puts Congress in the position of setting complex health-based standards. The determination of acceptable risk should be undertaken by the EPA Administrator subject to public review and comment, and not determined by legislation.

4. Since one-in-a-million is defined as the interim emissions standard, we would assume the final health-based standard is intended to be more stringent than one-in-a-million. This practically defines the term "ample margin of safety" as zero emissions and zero risk, an impossible and unnecessary limit.

5. Giving the EPA Administrator blanket authority to regulate work practices and other operations within a facility is inappropriate. Environmental statutes should not regulate the routine, internal operations of a manufacturing facility.

6. A technology-based standard which requires the maximum degree of reduction, including a prohibition of

emissions if achievable, is too stringent. The terminology "prohibition of emissions" is directly oriented to a zero risk concept and is inappropriate in setting technology-based standards.

7. The Chemical Safety and Hazards Investigation Board seriously infringes on existing authorities and is unnecessary. The accident investigation function duplicates authority already vested within EPA and other government agencies.

Definitions

The new definition of major source as five tons per year for any pollutant subject to technology-based standards or twenty-five tons for a combination of pollutants is unreasonable. Every source emitting as little as 5 pounds per hour of any combination of regulated substances will be a major source for every substance, regardless of how small or insignificant the emissions level. This drastically expands the universe of "major sources" and hopelessly complicates any requirements to regulate those sources. Combined with the permit program requirements, this will be a major burden on regulatory agencies (EPA and states) as well as businesses of all types and sizes without any measurable benefits.

Technology-Based Standards

Under Title V, technology-based standards are to be applied to each air pollutant on the SARA Section 313 or CERCLA Section 104 lists. The Section 313 list of more than 300 chemicals was originally compiled from lists developed by the States of New Jersey and Maryland and was not intended to identify toxic air pollutants nationwide. The original states' lists were developed to address substances of concern within these states. It is not appropriate to use the Section 313 list as a starting point for federal clean air legislation.

It is unrealistic to require the Administrator to make a determination of whether to add a substance to the list within 180 days. This is not enough time to make an informed decision. It is more likely that inadequate data will accompany the petition and agency resources will be strained to try to gather the necessary data. This system invites the Administrator to be flooded with petitions without providing a mechanism to deny petitions for inadequate resources or time to review petitions. In addition, the threshold for adding substances to the list is much too low. Any substance could be added based just on the terminology of "known to cause or may reasonably be anticipated to cause adverse effects on human health and the environment." All substances may cause some adverse effects depending on dose and exposure. Open-ended criteria such as those specified in Title V are inappropriate for development of effective regulations.

The technology-based emission standards will require the maximum degree of reduction of emissions achievable, including a possible prohibition of emissions. The cost of this policy to the American public should be carefully weighed in relation to the improvements in human health protection which might result. A zero emissions bill is a zero industry bill.

Developing a single emission standard for an entire source category or subcategory, as required by Title V, would not be feasible. The most appropriate emissions controls would vary by the contents of the stream. Controls for organics and metals are very substance-specific. It is too simplistic to assume that each and every one of a long list of substances is emitted from a discrete vent and that the emission of each of these substances can be reduced by just adding a piece of pollution control equipment. This bears little or no resemblance to the real world.

Title V authorizes the Administrator to promulgate work practice and operational requirements which are unwarranted and potentially counterproductive. The chemical process industry is the most dynamic of all manufacturing sectors. EPA specification of designs and equipment could freeze technology and would be a serious detriment to innovation, competitiveness, and plant safety. If EPA is to specify process design through regulation, EPA should assume a share of the associated risk and liabilities.

Title V authorizes the Administrator to require major sources to conduct annual audits and safety inspections and make the information obtained available to the public without providing adequate protection of confidential information. Making audit information publicly available will be contrary to one of the purposes of an internal audit - identifying potential problems before they become problems.

Title V provides a "grandfather provision" for any existing source that has installed Reasonably Available Control Technology (RACT) or Lowest Achievable Emission Rate Technology (LAER) so that the source will not have to add on new technology until 5 years after RACT or LAER has been installed. It is unclear why such protection is not provided for installing Best Available Control Technology (BACT) or other mandated controls.

The deadlines for regulating sources in Title V will be unachievable because the Administrator will not have information to identify all major sources. In many instances, the sources represented within the major source categories will not be included in the SARA 313 emissions inventory data base. Arbitrarily selecting the schedule requiring 25% of all categories or subcategories to have standards within 3 years an additional 25% within 5 years and the remainder within 10 years is unreasonable because the total number of major sources in categories and subcategories which would come under the requirements of Title V is not known at this time. Congress must recognize that there are not 10, 20 or 30 major categories, but under the definition in this proposed bill, there may be hundreds.

The proposed rationale for regulating area sources is also inappropriate. The Administrator is required to prepare a detailed inventory of the total quantity of air pollutants emitted by each category of area source but the data to do this is not readily available. The inventory process will require source surveys and extensive staff input. The definition of an area source includes mobile sources and activities of individuals (for example, pesticide application), the emissions from which are almost impossible to quantify and virtually impossible to control "other than by discontinuing the practice." Consequently, the proposal, which would require a 55% reduction of area source emissions within 10 years, is doomed to failure.

Health-Based Standards

The health-based standards section of Title V identifies a list of eight specific substances to be regulated. Substances can be added to the list if the Administrator determines that the substance may reasonably be anticipated to "cause or contribute to" adverse effects to health or the environment. This is a change from the current terminology that the air pollutant " will result in..." The "cause or contribute to" language could result in the inclusion of virtually all substances since it will be impossible to prove they may not "contribute" to an "effect". Furthermore, environmental effects should not be considered equally with health effects. The focus of Section 112 has always been, and should continue to be, protection of public health.

Under Title V, a substance will be a hazardous air pollutant based on acute or chronic toxic effects produced by a substance individually or by cumulative or synergistic effects. It is very difficult to measure the toxicity of pure substances dissolved in air and the science is inadequate to define cumulative or synergistic effects. All substances could have some acute or chronic toxicity since toxicity by definition implies a dose/exposure relationship. Conceivably, everything would be regulated as a hazardous air pollutant and require health-based standards.

The Administrator is to establish by rule the criteria for listing additional substances as hazardous air pollutants. This criteria must include the likelihood of acute or chronic adverse health effects for the potentially most exposed persons. The terminology "potentially most exposed persons" is too open-ended and in most cases would not reflect any real risk to public health. This could result in drastic overregulation with no corresponding health benefits.

If a substance is proposed for inclusion on the list and there is insufficient information to make a decision whether or not to add the substance, the Administrator is required to establish a research program which may be paid for by all owners and operators of facilities which may emit the substance. While this is similar to authority already available under the Toxic Substances Control Act (TSCA), it goes beyond that authority and could cause significant problems for the Agency and for industry. EPA will be required to identify all owners and operators of manufacturing, processing, distribution, and disposal operations emitting the substance in question and allocate costs in some manner. Thousands of small users and consumers will most likely be involved. Whenever a user incurs financial liability for one of these research programs, he will understandably pass the costs on to his customers. Another option would be to deprive customers and consumers of the use of the substance, even though the substance might ultimately be found to be nonhazardous.

For each substance that is listed, the Administrator will be required to develop health-based standards for all categories of sources emitting the pollutant. Requiring the Administrator to promulgate standards for all categories of sources, without regard to the risk presented, is a public disservice. Many sources will be over controlled with very stringent health-based emission standards, some of which may have insignificant emissions. Title V does not provide EPA and/or the states any authority to prioritize their efforts to control higher risk source categories. Title V also precludes the Administrator from considering costs, economic, energy or other factors or technology feasibility in determining an appropriate emission standard.

Title V fails to provide the EPA Administrator with the discretion to determine what is an acceptable risk. The interim emission standard for probable or possible human carcinogens which limits the risk for the most exposed individual to no more than one-in-a-million, is inappropriate. By establishing one-in-a-million as an interim emission standard for a probable or possible human carcinogen, it is implied that the permanent ample margin of safety standard must be even more stringent than one-in-a-million. This leads directly to zero risk and zero emissions.

Sudden, Catastrophic Releases

Section 507 of Title V, Prevention of Sudden, Catastrophic Releases, is not necessary and assumes that accidental releases can be controlled by legislative mandate. By concentrating on punitive and investigatory measures designed to result in possible new regulations and public misunderstanding, Title V ignores many positive steps already taken by the chemical industry to minimize the likelihood of accidental releases. Many of the preventive measures proposed in Title V are based on elementary assumptions about the hazard assessment process.

In implementing SARA Title III, EPA and the states will be obtaining valuable data with which to make future decisions on the adequacy of current programs to control accidental releases of toxic air pollutants. All of this information - to be generated during the next year under Title III - should be fully digested by EPA, the user industries and the states prior to considering any additional legislation in this area.

The following requirements under Title III will provide data on air pollutants;

- Section 302 - provides for a list of extremely hazardous substances. Any facility storing, producing or using a substance on this list in excess of the reporting threshold quantity for that substance must report to the state emergency response commission that it is subject to the requirements of Title III. Facilities were required to make this notification prior to May 17, 1987. EPA and the states should now be given the time to evaluate the number of facilities which have reported on the extremely hazardous substances they handle.

- Section 304 - facilities were to begin notifying the state emergency response commission on May 22, 1987 of releases of any extremely hazardous substance which are not federally permitted and which are in excess of the reportable quantity determined by the EPA Administrator. The frequency, nature, and extent of such releases should be evaluated prior to determining whether additional regulations are needed for controlling the releases of these air pollutants.

- Section 305 - EPA is conducting a study which focuses on three elements provided in the statute:

    1. Current technological capabilities to monitor, detect, and prevent releases of extremely hazardous substances.

    2. The effectiveness of warning systems for accidental releases of extremely hazardous substances.

    3. The technical and economical feasibility of establishing, maintaining, and operating perimeter alert systems for detecting releases of extremely hazardous substances.

    In conducting this study, EPA has prepared a "Survey on Manufacturing, Handling, And Storage Practices Using Extremely Hazardous Substances". This survey will focus on twenty-one specific chemicals. Results of this survey will provide information on current hazard evaluation procedures, management practices, process controls, preventive maintenance, and release mitigation efforts. No determination of whether additional legislation is needed can be made prior to the completion of this survey.

Existing law is adequate for determining responsibility for accidents which occur. Therefore, the establishment of a "general duty" clause for the owners and operators of facilities producing, processing, handling or storing substances identified from the SARA Section 302 list is unnecessary. The existing general duty clause within the Occupational Safety and Health Act of 1971 already requires the employer to insure a safe and healthy workplace. This has already been taken by OSHA to extend to the prevention of accidental releases, as indicated by that agency's inspections during last year's Special Emphasis Program (SEP). The SEP greatly enhanced OSHA's auditing experience.

While risk assessments are useful, the Title V requirements for hazard assessments will stifle the effective use of such risk analysis. The above-noted hazard assessments must be completed within 18 months of the enactment of Title V. These assessments will require a variety of elements which create problems. Title V specifies elements for inclusion in the assessment which dictate a probabilistic approach, but probabilistic risk assessment is a resource intensive methodology which has limited application. Other methods of qualitative analysis can, in many circumstances, fulfill the objective of aiding in the prevention or mitigation of accidental releases. In such instances, other systems such as hazard operability and fault tree are more valuable.

The problem is exacerbated by the direction to the Administrator to issue guidelines on hazard assessments within 12 months of Title V's adoption. Such guidelines will only increase the likelihood that important and useful methodologies will be abandoned in favor of a probabilistic straightjacket mandated by government.

Any risk oriented approach which uses an inadequate data base to generate probabilistic information such as exposure levels, fatalities, or property loss, and makes this information available for use by the agencies and the public is poorly conceived. The ability to understand, rationalize and accept probabilistic risk data is low. Additionally, any use of probabilistic data would ultimately necessitate differentiating between acceptable and unacceptable levels of risk. We seriously question whether such judgements can effectively be made at this time.

The Chemical Safety and Hazards Investigation Board proposed in Title V seriously infringes on existing authorities, and is redundant and unnecessary. Subsection 4(A) authorizes the creation of a Chemical Safety and Hazards Investigations Board, which is instructed to look into the cause or probable cause of any accident involving chemicals which results in fatalities or property damage. The accident investigation function duplicates authority already vested within EPA and other agencies. The Occupational Safety and Health Administration, National Transportation Safety Board, and Coast Guard also have independent authority to investigate. Arguing that another layer is needed in order to get to the "real" cause of accidents does these agencies a great disservice and ignores the record of their performance. Title V also vests the Board with regulatory authority which would possibly be conflict with EPA's authority.

Protection is not provided in Title V for confidential information provided to the Board. Protection under SARA Sections 322, 323 and 324 is inadequate for the type of information that the Board may obtain. Title V creates a politically charged relationship between the Board and the Administrator. The Administrator must not only support that body's activities from his budget, but must also implement any Board recommendations and timetable for regulatory action. Refusal, in whole or part, would require justification in writing from the Administrator. In essence, he or she would be forced to prove a negative in order to maintain control over Agency resources.

Conclusion

Attaining clean air goals and protecting public health depends on fine-tuning and supporting existing federal and state programs as opposed to the proposed Clean Air Standards Attainment Act of 1987.

CLEAN AIR WORKING GROUP
818 Connecticut Avenue, N.W.
Suite 900
Washington, D.C. 20006
(202) 857-0300

July 20, 1987

The Honorable
George J. Mitchell
Chairman
Subcommittee on Environmental
  Protection
Committee on Environment and
  Public Works
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

THE CLEAN AIR STANDARDS ATTAINMENT ACT OF 1987

The Clean Air Working Group (CAWG) is comprised of over 100 representatives of the U.S. business and industrial community in Washington, D.C. In addition to individual companies, most industry trade associations and key organizations representing business and industry in general, are members of CAWG. The purpose of the Group is to coordinate the business community's response to Clean Air Act legislative activities.

CAWG has expedited review of the Committee Working Paper (CWP) dated July 10, 1987. Enclosed is our section-by-section analysis of the bill with preliminary comments following each section.

CAWG is opposed to enactment of the CWP. We believe that any comprehensive reauthorization of the Clean Air Act should be considered carefully, at a rate that allows for timely input from all interested parties. Our letter to you dated June 29, 1987, expressed concern with the pace of your Subcommittee's proceedings. This pace denied our members the opportunity to carefully analyze provisions of the CWP and communicate our comments in a timely manner. Having completed our analysis and preliminary comments, we are now in the process of determining specific industry and facility impacts. Unfortunately, these impacts will not be available for the Subcommittee's consideration.

Title I of the CWP addresses the nonattainment dilemma and much more, including fundamental changes to the Act. This Title promised relief from sanctions, but imposes painful remedies. The conditions for relief are so onerous that many communities may opt for sanctions. Title I eliminates the regulatory flexibility available under current law that resulted in improved air quality consistent with community growth and industrial development. It is disappointing that resolution of the attainment dilemma, of immediate concern to many communities throughout the country, is held captive to enactment of other controversial provisions. Title I is not consistent with the principles outlined in the attached statement on ozone nonattainment which was sent to all members of the Congress on June 24, 1987.

Title II addresses acid deposition controls and is a continuation of the decade-long debate on this issue. CAWG does not agree with the findings in Title II. We view the bill as a rush to judgment on the need for acid deposition controls despite growing scientific evidence that the measures may not be warranted and without assurance that resources thought to be at risk will be protected. Our views are outlined in the brochure Acid Rain: The Rush to Judgement sent to all Members of the Congress in January, 1987. They are summarized in the attached briefing paper dated April 22, 1987 for the House 92 Group.

Title III mandates new mobile source and motor vehicle fuels requirements — new only insofar as they have not yet been adopted or enacted after years of debate. CAWG believes these specific requirements are best left to EPA's discretion and, where justified, should be imposed through regulation rather than legislation.

Title IV requires EPA to adopt new or revised National Ambient Air Quality Standards. EPA has authority under the Clean Air Act and in some cases is actively considering the propriety of adopting these standards in the normal regulatory manner. CAWG believes it is inappropriate for Congress to legislate the adoption of these standards.

Title V, the only Title not yet reported by the Subcommittee, represents a radical change in the listing and regulation of toxic air pollutants. The provisions of Title V create undefined and open-ended liabilities associated with extremely hazardous substances and unnecessarily thrusts EPA into the operation of facilities. The Title establishes a series of complex, costly, and duplicative regulatory requirements for toxic and hazardous pollutants whose impact is difficult to understand, much less assess.

CAWG is opposed to enactment of the CWP. We urge your Subcommittee not to report the bill. The full impact of the bill is not understood and has not been assessed. The far-reaching proposals in the bill have not been justified. If the bill is reported on July 29, 1987 as planned, we urge the full Committee to consider our comments and to proceed deliberately.

Sincerely,

Earl

Earl W. Mallick
Chairman
Clean Air Working Group

Enclosures

cc: Members of the Committee on
Environment and Public Works

6-24-87

CLEAN AIR WORKING GROUP
STATEMENT ON OZONE NONATTAINMENT

Summary

The ozone nonattainment dilemma before EPA and the Congress is a complex issue. The Clean Air Act requires attainment of the health-based ozone standard by December 31, 1987, and provides for the imposition of sanctions on nonattainment areas. Many areas will not be in attainment by December 31, 1987, and some may never be in attainment.

Because public health is at issue, it is important to understand the nature and significance of the risk. Ozone levels above the health-based standard may cause temporary respiratory effects in a portion of the exposed population. Most nonattainment areas are in compliance over 99 percent of the time and, for less than 1 percent of the time, only a portion of a nonattainment area exceeds the standard. Therefore, not all individuals in nonattainment areas are exposed to ozone levels above the standard and, of those exposed, only the most sensitive may be affected. Since exceedences are generally limited to a small number of hours per year, the exposure risk is correspondingly reduced.

In considering the risk, it is appropriate to recognize the scientific uncertainties associated with our understanding of the ozone phenomenon. These include the statistical definition of attainment and our ability to monitor accurately and to model reliably.

A simple legislative extension of the ozone attainment date provides little relief for many metropolitan areas and much of industry. Even with an extension of the attainment date, sanctions can be imposed on many areas and industrial requirements in nonattainment areas could become more stringent. The resolution of the ozone dilemma, whether regulatory or legislative, should conform to the following criteria:

* Recognize past efforts when considering sanctions

* Provide for growth and development

* Tailor requirements to the individual nonattainment areas

* Require continued improvements in air quality toward attainment

* Impose the most cost effective measures

CLEAN AIR WORKING GROUP
STATEMENT ON
OZONE NONATTAINMENT

OZONE

Ozone is formed when hydrocarbon and nitrogen oxide emissions react in sunlight. Ozone is primarily controlled by reducing hydrocarbon emissions. The role of the other ozone precursor, nitrogen oxide, is not fully understood. Nitrogen oxide emission reductions may reduce, or in some circumstances even increase, the formation of ozone. The one-hour ambient air quality standard for ozone, set to protect public health with an adequate margin of safety, is 0.12 ppm. Exposure to ozone above this level may cause temporary respiratory effects in a portion of the exposed population. High ozone concentrations may also cause crop yield loss and forest damage.

THE CLEAN AIR ACT

Originally, the Clean Air Act required all areas to attain primary ambient air quality standards in the 1970s. The Clean Air act amendments of 1977 extended the attainment date up to December 31, 1982 and also made provisions for an additional extension up to December 31, 1987 for areas that qualified. Areas in 31 states received the longer extension. All areas of the country are required to attain the ozone standard, or sanctions can be imposed on the nonattainment areas. Sanctions include a moratorium on the construction or modification of hydrocarbon sources of 100 tons per year or more, and the cutoff of air planning grants, sewer construction grants and highway funds.

STATE IMPLEMENTATION PLANS (SIPs)

EPA-approved SIPs recognized the status of an area's nonattainment and imposed requirements on sources within the area that were designed to achieve attainment. Most areas have implemented their existing SIP requirements. However, some areas with approved SIPs, that have implemented their SIP requirements, will not achieve attainment by December 31, 1987. There are other areas with approved SIPs that have not fully implemented the SIP requirements and will not be in attainment by December 31, 1987. About 20 areas do not have EPA-approved SIPs and some of these areas are not able to design a SIP that will show attainment by December 31, 1987.

EPA NONATTAINMENT POLICY

EPA's plan to deal with the ozone nonattainment situation, using existing authorities under the Clean Air Act, is to use the most current monitoring data to determine nonattainment, to require continued progress toward attainment, and to require new SIPs where attainment will not be achieved by December 31, 1987. EPA's sanctions policy, adopted in 1983, would not impose penalties on areas with approved SIPs that have implemented their SIP requirements, even though they failed to achieve attainment by December 31, 1987. For at least those areas that do not have an approved SIP or have not implemented all measures in their SIP, it appears EPA will impose a construction ban and possibly other sanctions. EPA expects additional litigation to challenge the lawfulness of their nonattainment policy and looks to Congress for guidance.

NONATTAINMENT AREAS

An area is considered nonattainment if any one monitor in the area records ozone levels above the standard more than three separate hours, over three different days, during a rolling three-year period. Thus, a single monitored hour above the standard is designated by EPA to be a full day of nonattainment for the entire area.

EPA has designated 76 areas nonattainment based on 1983 through 1985 ozone monitoring data. Fifteen of these areas experience concentrations of 0.17 ppm or higher. The balance are below this level and most are marginally out of compliance. Los Angeles, by far the worst area for ozone, is expected to exceed the standard during 40 days each year at levels up to 0.36 ppm. Houston, the next worse area, is expected to exceed the standard during seven days per year at levels up to 0.25 ppm. Detroit is expected to exceed the standard one day a year at a level of 0.13 ppm and actually exceeded the standard only one hour in the two year period 1984 - 1985. There are many other areas with similar nonattainment patterns in these same two years: Cincinnati had no hours of nonattainment; Washington, D.C. had three hours; Cleveland seven; Pittsburgh none and Denver one.

With the exception of Los Angeles, air quality in nonattainment areas is below the ozone health-based standard well over 99 percent of the time. Less than 1 percent of the time, some portions, but not all, of a nonattainment area will record ozone levels above the standard. Clearly, not everyone in a nonattainment area is exposed to the higher ozone levels during those hours each year that portions of the area may exceed the standard. And, of those individuals actually exposed to ozone levels above the standard, only a portion are affected.

In June of 1987, EPA will review the nonattainment status of all areas using 1984 through 1986 data. The use of more current data is expected to reflect air quality improvements through lower ozone concentrations in most areas and a reduction in the number of days or total hours per year the standard is projected to be exceeded. This should reduce the number of nonattainment areas.

SCIENCE OF OZONE

The process used to determine attainment of air quality standards is not precise. The analytical accuracy of monitoring and the reliability of modeling must be considered when making attainment decisions. Flawed or unusual data should be statistically edited to prevent one or more explainable high data points from causing nonattainment for three years. EPA should exercise the maximum regulatory flexibility, consistent with good science, when considering attainment.

It is important to recognize the fact that the science of ozone is not fully understood and models still are being developed to improve their ability to predict how source emission reductions contribute to reduced ozone formation. Moreover, sources in attainment as well as nonattainment areas may contribute to the nonattainment of downwind areas due to the atmospheric transport of ozone and its precursors. Also, there are no major uncontrolled sources; rather, there are many small sources whose control or elimination would make, at best, modest contributions towards attainment. There are few, if any, cost effective control requirements that can be imposed on these sources. For these reasons, strategies to force attainment in some areas could require significant lifestyle changes and restrictions on community growth and industrial development. Examples of more Draconian measures that can be considered are alternative driving days, forced used of mass transit and costly controls on wineries, bakeries, dry cleaners and other small emission sources.

CRITERIA FOR A SOLUTION

Whether regulatory discretion is exercised or legislation is considered to resolve the ozone nonattainment dilemma, the following criteria should be observed:

- Recognize past efforts when considering sanctions
  Many nonattainment areas with approved SIPs have made honest and costly efforts to achieve attainment but failed to do so even with implementation of all SIP requirements. Also, many areas have made substantial progress but do not have approved SIPs because they could not show attainment by December 31, 1987. These areas should not be penalized because the scientific understanding of ozone is incomplete. These efforts should be reflected in any EPA sanction policy.

- Provide for growth and development
  Restrictions on community growth and development or forced lifestyle changes should be avoided. Communities need to provide for growth. Flexibility must be maintained in the regulatory process. Measures such as emissions trading, that allow for environmentally compatable industrial development and modernization, should be retained and expanded.

- Tailor requirements to individual nonattainment areas
  SIPs should tailor future requirements to the specific needs of individual nonattainment areas. The criteria, methodology and evaluation of data used to determine ozone nonattainment should be refined to more accurately reflect actual levels of ozone exposure. It is essential that the degree of response is comparable to the degree of the problem. Uniform national requirements should be avoided to eliminate their imposition in areas where they are not needed.

- Require continued improvement in air quality toward attainment
  Nonattainment areas should continue to plan for attainment by adoption of reasonable measures designed to reach attainment as soon as practicable. This planning will reassure individuals in nonattainment areas that efforts are being implemented to protect public health. It should also provide certainty for emission sources, since once controlled, further ratcheting of controls should not be required, thus avoiding the moving target of forever tightening requirements.

- Impose the most cost effective measures
  Sources in nonattainment areas should not be controlled, nor should new requirements be imposed on already controlled sources, unless the requirements are cost effective and make a positive and measurable contribution toward attainment.

The Clean Air Working Group (CAWG) is comprised of over 100 representatives of the U.S. business and industrial community in Washington, D.C. In addition to individual companies, most industry trade associations and key organizations representing business and industry in general, are members of CAWG. The purpose of the Group is to coordinate the business community's response to Clean Air Act legislative activities.

CLEAN AIR WORKING GROUP
ACID RAIN BRIEFING
for
THE 92 GROUP

April 22, 1987

We appreciate this opportunity to discuss acid rain. Clearly, feelings run strong in the acid rain debate. Many sincerely believe that the problem has been neglected too long, that the delay is costly and that we know enough to mandate legislation to protect resources of concern. Others believe there is no acid rain problem and any control program beyond the provisions of the Clean Air Act would be a waste of national resources. The Clean Air Working Group (CAWG) has taken a middle ground that there may be a problem, but based on a growing body of evidence, it is not an ecological crisis. That we have time for science to guide public policy. That there is substantial justification to avoid a rush to judgement. That we will never have all the answers, but in 18 to 24 months we will have additional and key information to determine the size and scope of an acid rain program.

It is our view that acid rain is one of several atmospheric phenomena that should be studied to insure that sound science guides public policy. These studies have been underway for many years and the results are just now becoming available. Prudence dictates that we pause and consider this important information. Further, we believe there is no acid rain crisis and no justification for a rush to judgement by the 100th Congress.

The National Acid Precipitation Assessment Program (NAPAP) mandated by Congress in 1980, is supplying information and answers to important questions. The NAPAP

1985 annual report to Congress was released in March, 1987. The NAPAP interim report, summarizing their findings to date, is due in June, 1987. NAPAP participated in the Joint Report to Bilateral Advisory and Consultative Group (BACG) February, 1987, status report of Canadian-U.S.research in acid deposition. The results of this carefully conceived, comprehensive, Congressionally mandated 10-year investigation will continue to flow to the public for several years. By design, the most important and comprehensive information was not expected to be available from the NAPAP effort until the last two years of their study.

Meanwhile, the Clean Air Act is working -- health-based ambient air quality standards for sulfur dioxide and nitrogen oxides (SO_2 and NO_x) have been attained in virtually all of the country and sources of SO_2 and NO_x emissions are controlled.

We can all agree that there is a perception of a problem. Polls confirm that the public is concerned about acid rain. And we recognize that this concern translates into political pressure for Congress to act. The pressure will not be relieved until Congress acts or until the facts reassure the public.

We believe the facts are reassuring. It is our hope that the evolving science of acid rain, as reflected in NAPAP and other studies, will guide the Congressional debate so that legislation, if needed, will invest national resources in a cost-effective manner that effectively protects resources of concern.

The precursors of acid rain are SO_2 and NO_x. The major source of SO_2 emissions are coal and oil-fired electric utility plants, industrial activities and space heating. Total SO_2 emissions reached a peak of 28.7 million tons per year in 1973. By 1985, they had been reduced over 26 percent to less than 21 million tons. The trend in SO_2 emissions is down and may continue to decline or stay flat for several years. Please note that the SO_2 annual emission rate between 1973 and 1985 decreased by about 8 million tons -- a reduction similar in scale to that called for in several acid rain control bills.

The major source of NO_x emissions are electric utility plants, transportation and industrial activities. NO_x emissions have also declined from a peak of 21.1 million tons per year in 1978 to 20 million tons in 1985. Transportation emissions of NO_x have consistently declined over the last 10 years and will continue to decline — these reductions have more than offset other NO_x emission increases. NO_x emissions may remain flat for the next few years.

The point is that acid rain precursors, SO_2 and NO_x, are controlled under the Clean Air Act. Their emissions have been significantly reduced and national emission trends are down for SO_2 and flat for NO_x.

Yet, despite significant SO_2 and NO_x emission reductions, there has been no measurable change in the acidity of rainfall over the same period. There is no documented reduction in acid deposition over the same period. There seems to be no corresponding change in the alleged effects of acid rain.

While we generally understand how acid rain is formed, we do not have an adequate understanding of the relationship between sources of emissions and acid deposition at a receptor. There is no certainty that a given reduction of SO_2 and NO_x emissions will result in an equivalent reduction in acid deposition at a receptor or that alleged effects will be alleviated. We simply do not know if future emission reductions will improve the acidity of rain or decrease acid deposition. More importantly, will future emission reductions alleviate the alleged effects of acid rain and provide any protection to resources of concern?

To answer these questions, we must be able to model the acid rain phenomenon. We can measure what is happening and compare it with historic data without fully understanding acid rain. However, to predict what will happen requires a fuller understanding of the phenomenon and sophisticated computer models that have not yet been developed. Currently, field measurements and models differ by as much as 100 percent. We simply do not have the tools to predict with confidence the impact at a receptor from source emission reductions. If past reduction and impact measurements are any guide, there may be no impact, no improvement, no measurable environmental change from future SO_2 and NO_x emission reductions.

The extent of actual effects from acid rain is very uncertain. In many cases, the alleged effects of acid rain have been exaggerated, misunderstood or not demonstrated. Since these effects are the basis for public concern and possible Congressional action, they need to be fully understood.

Resources, such as lakes and forests, are thought to be at risk from acid rain. If they are, they should be protected. But before mandating protection we need to understand the risk to ensure we provide meaningful protection.

Surface water acidification is the major acid rain concern. The claim that thousands of lakes are now quite acidic and many more will become so is not supported by the facts. A 1986 National Academy of Sciences report states that in the Northeast, some lakes have become more acidic, some less, others unaffected and the role of acid deposition is not known. The 1986 EPA Lakes Survey identified one acidic lake in the West -- from natural causes, and perhaps 600 in the East -- many in Florida. The EPA survey does identify lakes that may be vulnerable to acidification.

We have reason to assume there is a problem with the acidification of lakes. But the size of the problem was exaggerated. We need to know the cause and how to protect our lakes -- perhaps on a case by case basis -- before we act. Is the cause acid deposition, agricultural runoff, natural soil conditions or local rather than the long-range transport of acid deposition?

We also have reason to doubt that a significant emission reduction program will protect a lake. Past reductions have had no documented impact. For lakes then, the size of the problem has been exaggerated and there is no single, simple solution.

Much less is known about the effects of acid rain on forests than on aquatic systems. Reports of forest declines in Europe and the U.S. are of concern. In Germany, the most recent explanation is not acid rain but a combination of factors, including nature, climate and local sources of pollution.

In the U.S., the Northeast red spruce decline is often blamed on acid rain. However, a 1986 National Academy of Sciences report states there is no indication now that acid rain is an important factor. The report does list other possible causes.

The U.S. Forest Products Industry has conducted extensive evaluations of forest decline reports in Germany and the U.S. They concluded that there is no evidence of a widespread regional forest decline caused by air pollutants in North America.

For forests then, acid rain probably is not the culprit. Concerns for acid rain's role are either wrong or not fully understood. Local sources of pollutants may be one cause and ozone appears to be a factor.

It is difficult to identify damage to materials caused by specific pollutants or combinations of pollutants. Materials naturally deteriorate with time and it is difficult to distinguish the effects of acid rain from normal weathering. The role, if any, played by acid rain in the degradation of materials has simply not been demonstrated. The likely culprit is weather and local sources of pollutants.

Until recently, human health has not been an acid rain issue. And, it should not be. The National Ambient Air Quality Standards for SO_2 and NO_x were set to protect human health. Virtually all of the country is an attainment area for both pollutants. Therefore, human health is protected from both acid rain precursors. If there is any question of protecting human health, it should be addressed through the Clean Air Act.

In recent Congressional testimony, health effects were discussed for SO_2 and NO_x but, at concentrations above the ambient air quality standards. The testimony also covered adverse health effects from ozone but, again, at or above the health-based ozone standards.

Acid rain is not a public health problem. The only health issue that may be associated with acid rain is the release of heavy metals when exposed to low pH, and this is the subject of current research.

Our understanding of the acid rain phenomenon is not complete and results of current research presents substantial justification for pausing to reflect on the nature and scope of the problem. There remains a great deal of uncertainty about many facets of acid rain. Yet with all of the uncertainty surrounding acid rain, the one certain consequence is a staggering cost -- perhaps exceeding $100 billion over 20 years. This represents a significant investment of our national resources. It would have an adverse impact on jobs, regional dislocations, international competitiveness, electric utility rates and national energy security.

In light of the evolving science, uncertainties and staggering costs, can we justify acid rain controls now? We think not. And perhaps not in the future. But science can help answer these questions -- if we give it a chance. We have time to consider the flow of information from Congressionally-mandated research. We have time for science to guide public policy in the acid rain debate. There is no acid rain crisis! There is no need to rush to judgement on acid rain legislation.

Thank you for listening to our views on acid rain. We would like to hear your perspective and then discuss our differences.

ANALYSIS OF S.______, THE "CLEAN AIR STANDARDS ATTAINMENT ACT OF 1987"

(Pending Before the Senate Subcommittee
on Environmental Protection)

Prepared by the Clean Air
Working Group

July 20, 1987

The Clean Air Working Group (CAWG) consists of over one hundred representatives of the U.S. business and industrial community in Washington, D.C. CAWG members include individual companies, most industry trade associations, and other organizations representing business and industry. The Group's purpose is to coordinate the business community's response to Clean Air Act legislative activities.

July 20, 1987

ANALYSIS OF S.______, THE "CLEAN AIR STANDARDS ATTAINMENT ACT OF 1987"*/

Introduced by Senator Mitchell (D.-Maine)
on ________________, 1987

SUMMARY

S._______ would produce devastating effects on American industry and consumers to address purported environmental concerns that already are being adequately addressed under existing regulatory programs. The five titles of the bill propose to add sweeping new provisions to the Clean Air Act that would:

- make basic yet controversial changes to the Clean Air Act, and impose Draconian new limits on industrial and other business activity and on personal and commercial transportation in areas of the country that have not attained national ambient air quality standards for ozone or carbon monoxide (Title I of the bill);
- impose drastic reductions in emissions from industrial facilities and raise electricity and other costs dramatically, in a rush to address acid deposition phenomena — despite growing scientific evidence that these measures are unwarranted, and with no assurance that resources of concern will be protected (Title II of the bill).
- require stringent new emission and equipment controls for automobiles and trucks and new standards for motor vehicle fuels — in many cases imposing substantial burdens on manufacturers and their customers (Title III of the bill);
- require the Administrator of EPA to adopt new or revised national ambient air quality standards, without regard to whether the scientific evidence provides a basis for such standards to protect public health or welfare (Title IV of the bill); and
- establish a series of complex, costly, duplicative, and counterproductive regulatory requirements governing emissions of hundreds of so-called "toxic" or "hazardous" air pollutants from a broad range of large and small facilities (Title V of the bill).

---

*/ This analysis covers the provisions of Titles I through V of S. ____. Titles I through IV were approved by the Senate Subcommittee on Environmental Protection on June 30, 1987. As of July 20, 1987, the Subcommittee had taken no action on Title V.

ANALYSIS OF S. _____, THE "CLEAN AIR STANDARDS ATTAINMENT ACT OF 1987"*

Introduced by Senator Mitchell (D.-Maine)
on ________, 1987

TITLE I — REQUIREMENTS FOR NONATTAINMENT AREAS

I. Section 101 — Extension Conditions

A. Summary of Key Provisions

1. Extension of Attainment Date for Up to Three or Five Years, and Phase I Requirements

- The bill would allow an extension of the attainment date for up to 5 years (from December 31, 1987 to December 31, 1992) for any nonattainment area that cannot attain the 1987 date "despite good faith efforts" to comply with the Clean Air Act's nonattainment-area requirements "and to implement all measures in approved or submitted implementation plans."

- To be granted an extension, the state must submit within 3 months after enactment a written commitment that it will submit a revised state implementation plan (SIP). The commitment must be "signed by the Governor and the principal elected official of each local government or air pollution control agency with a formal role under State law in the development of implementation plans." The state must submit the revised SIP to EPA by December 31, 1989.

- The revised SIP must address maintenance (as well as attainment) of the air quality standard for a 20-year period after enactment and must include all Phase I emission control provisions. These provisions must:

---

*/ This analysis covers the provisions of Titles I through V of S. ____. Titles I through IV were approved by the Senate Subcommittee on Environmental Protection on June 30, 1987. As of July 20, 1987, the Subcommittee had taken no action on Title V.

(1) require a more stringent vehicle emission control inspection and maintenance (I & M) program, which shall (1) cover all vehicles "regularly operating" in each urban area of 100,000 or more population that contains any nonattainment area or that is in any county in an "ozone transport region," (2) require annual emission testing, equipment inspection, and repair or replacement, (3) be operated on a centralized or (with respect to emission testing) computerized basis, and (4) have a repair cost waiver of at least $200 or provide that any repair cost waiver limit applies only to costs not covered by a warranty under Section 207 of the Clean Air Act;

(2) require "Stage II" gasoline pump vapor recovery systems in ozone nonattainment areas required to have I & M programs;

(3) impose a schedule for implementing use of "alternative fuels or power sources with lower emission characteristics . . . for all centrally fueled fleets" of 50 or more vehicles "operating in" the nonattainment area;

(4) require, at a minimum, reasonably available control technology (RACT) for all existing hydrocarbon and nitrogen oxide (NOx) sources in ozone nonattainment areas;

(5) prohibit "trading" of emission reductions for existing sources;

(6) require each new or modified "major stationary source" to comply with the "lowest achievable emission rate" (LAER);

(7) require RACT for source categories identified by an ozone transport region commission; and

(8) impose such other measures "as may be necessary" for attainment by 1992.

I & M programs and Stage II systems must be in operation (1) by the end of 1989 for any area for which any approved or submitted SIP requires such programs or systems as of the date of enactment, and (2) by the end of 1990 for all other areas subject to the bill's requirement.

- Three-Year Extension — For an ozone nonattainment area that is not part of an ozone transport region and where the fourth highest daily maximum one-hour average concentration of ozone during the most recent 3 years for which there is adequate information does not exceed 0.14 parts per million, the state may submit by December 31, 1988, a SIP revision that complies with one of the first 3 requirements listed above (i.e., I & M, Stage II, or alternative fuels for large fleets), as well as the remaining Phase I control measures and the 20-year air quality maintenance requirement, and that ensures attainment by December 31, 1990.

2. Extension of Attainment Date for Up to Ten or Fifteen Years, and Phase II Requirements

a. Applicability

- The bill provides for a 10-year (or, in some cases, 15-year) extension if a state determines (before it submits either a written commitment to a 1992 attainment date or its revised SIP) that a nonattainment area cannot meet the 1992 attainment date, it must submit (by December 31, 1989), a revised SIP with Phase II emission control requirements (described below), in addition to Phase I requirements.

- Each nonattainment area in which the fourth highest daily maximum 1-hour average concentration of ozone during the most recent 3 years for which there is adequate information exceeds the ozone standard by more than 50% but less than 125% is presumed unable to meet the 1992 attainment date and is subject to Phase II, and the state must submit (by December 31, 1989) and implement a SIP that demonstrates attainment by December 31, 1997 (unless the state submits a revised SIP demonstrating attainment by 1992).

- *Fifteen-Year Extension* -- Each nonattainment area in which the fourth highest daily maximum 1-hour average concentration of ozone during the most recent 3 years for which there is adequate information exceeds the standard by *more than 125%* is presumed to be unable to meet the 1992 attainment date, and the state must submit (by December 31, 1989) and implement a SIP demonstrating attainment by *December 31, 2002*.

- Rhode Island is exempt from Phase II requirements if that state can demonstrate that Phase I requirements implemented in the nonattainment area *plus* control measures required throughout ozone transport regions *plus* Phase I and Phase II requirements in other nonattainment areas will together permit attainment in the nonattainment area by December 31, 1992, "or in any event, [by] a date not later than [the date by which] such standard would have been attained" if Phase II requirements were implemented in Rhode Island.

b. *Phase II Control Measures*

If Phase II applies, the state's revised SIP *must* include, *in addition to all Phase I requirements* (*and* the 20-year air quality maintenance requirement), *all* of the following measures:

- Transportation control measures to (1) *offset any growth in vehicle miles traveled* (VMT) in the nonattainment area or any emission increases associated with VMT growth, and (2) reduce mobile source emissions. The state *must* consider *each of the following measures* and, if it fails to adopt *any* of them, must explain why and *specify what alternative measures were adopted to reduce emissions by a comparable amount*:

  - programs to *restrict vehicle use* (e.g., *road user charges, tolls, parking surcharges, vehicle restricted zones, vehicle restricted periods,* and *registration conditions*);

  - HOV lanes;
  - public transit improvements;
  - mandatory employer participation in programs to encourage use of public transit and HOVs and alternative work hours (including staggered hours and compressed work weeks);
  - conversion of fleet vehicles to cleaner engines or fuels, or other controls on fleet vehicle operations;
  - traffic flow improvements;
  - "trip reduction ordinances"; and
  - "areawide ridesharing."

- Areawide reductions in hydrocarbon and NOx emissions in ozone nonattainment areas and areawide reductions in carbon monoxide (CO) emissions in CO nonattainment areas. These reductions from 1987 levels must total 33% by the end of 1991, 50% by the end of 1994, and 65% by the end of 1997, with an additional reduction of 15% (of remaining emissions) at the end of each 3-year period thereafter, until the area is in attainment. A state may substitute a different percentage for 65% (for the 1997 reduction) — with proportionate adjustments in the 1991 and 1994 reduction percentages — if the state demonstrates that it will attain the standard within 10 years after enactment. However, a substituted percentage may not result in a total emission reduction that is less than 5% of the emissions remaining for each year after 1987 until the area is in attainment.

- Reductions in hydrocarbon, NOx, or CO emissions from each "major stationary source" that are at least equal in percentage terms to the areawide percentage reductions. A source may receive credit for emission reductions made after 1981 to comply with emission reduction requirements based on RACT (as redefined by the bill) and LAER.

- Emission fees of $100 per ton of emissions of hydrocarbons, NOx, or CO from each stationary source that is subject to RACT or other emission reduction requirements and that is in a nonattainment area, beginning by January 1, 1993.

- "Excess emissions penalties" for each "major stationary source" (see pp. 14-15 below) that fails to reduce emissions by the required percentage (see above). The penalty must be the greater of (a) the amount the source would have spent to control the excess emissions, (b) the economic value of a delay in compliance, or (c) $5,000 per ton of excess emissions (the penalty is set at $5,000 per ton until another penalty amount is set for the source).

- A more stringent new source permitting program, requiring 2-for-1 emission offsets before any new source may be granted a permit to construct or operate.

B. Comments on Section 101

1. Phase I

- **Many nonattainment areas will come into attainment with few if any additional controls. EPA data suggest that several cities with no exceedences in 1984 or 1985 may be found in compliance when 1986 data become available later this year, or when 1987 data become available in early 1988, as EPA has indicated they will. Also, other areas are "de minimis" nonattainment (e.g., nonattainment for 1 hour or 1 day in an entire year) and are expected to attain the standard without adoption of the bill's stringent additional control measures. Adoption of such stringent measures for these areas is clearly unnecessary and cost-ineffective.**

- The bill introduces serious uncertainty into the conditions for attainment date extensions by failing to define "good faith" efforts. Indeed, the bill provides no objective criteria or guidance for EPA in making decisions whether to accept SIP revisions for review or reject them out of hand. Thus, the bill makes it likely that an EPA determination that the "good faith efforts" requirement has been met would be the target of legal challenges — a possibility that multiplies the uncertainties posed by the bill for states, localities, and the regulated community.

- Why should nonattainment areas be forced to show "good faith efforts" to comply with submitted state implementation plans (SIPs)? SIPs that have merely been submitted have no legal status, as they have not been approved by EPA and therefore are subject to federal disapproval. It would be strange indeed to compel localities — as this bill does — to adhere to submitted but unapproved plans that could be tossed out the window at any time.

- The 3-month deadline for submitting the written commitment to Phase I requirements is impossibly tight, since many local officials will have to give their approval. Indeed, a single local elected official could effectively veto the Governor's decision to seek an attainment date extension. In any event, there would be insufficient time for meaningful public participation in the state's decision. Moreover, the Governor and other officials in a state would have to decide whether to submit a plan (and to attain the air quality standards by 1992) without knowing the scope of that plan — a matter that can be resolved only after public comments and state rulemaking.

- The December 31, 1989 deadline for submitting a revised SIP is impractical. State legislatures and regulatory bodies would have insufficient time to enact legislation and adopt rules to put into effect the bill's requirements (e.g., I & M, Stage II, and alternative fuels or power sources for centrally fueled fleets). The public's opportunity to participate in the state's proceedings would be cut short. And, if EPA disapproves or fails to act on the SIP, states, local bodies, and sources would confront a prolonged period of uncertainty as to what control requirements apply.

- The Phase I requirements, as well as the Phase II control measures, would require a degree of reliance on ozone modeling that is far out of proportion to the capability and trustworthiness of that tool. This is particularly true of the 20-year air quality maintenance requirement. The undue emphasis on often unreliable modeling results that is likely to occur could add substantially to the unnecessary disruption and costs generated by this legislation.

- Under the bill, each Phase I requirement must be imposed on each area regardless of whether that requirement is needed in that area to achieve emission reductions. This is clearly legislative overkill.

- The bill's more stringent I & M requirements would force extensive changes in existing state programs, and would require centralized state emission testing — effectively barring garage testing. Requirement of computerized emission testing of hydrocarbons, CO, NOx, and particulates would make it impossible for most garages — especially small, independent operations — to perform tests. Costs would skyrocket. Moreover, it is estimated that testing in many areas would take at least 10 times longer than at present, both because of the long waits associated with centralized testing and because of the need for more complicated testing procedures. Thus, motorists would be greatly inconvenienced.

- The bill's provisions on refueling vapor controls are ill-founded, since emissions from refueling contribute little to ozone nonattainment. Moreover, controlling emissions from refueling is neither the most cost-effective nor the most result-effective means of emission reductions. Certainly, requiring Stage II service station controls as well as vapor recovery controls on motor vehicles would be redundant and wasteful. Resolution of the refueling vapor issue is best left to EPA, which has authority to address this issue and is conducting a proceeding to decide whether to adopt regulations.

- The strict deadlines for operation of I & M and Stage II systems are likely to be infeasible in many cases. Final approval of states' proposals for these systems may not even be obtained by the applicable date.

- As a practical matter, few areas will attain the standard by 1992 as a result of the Phase I measures. Most emission reductions from such measures are likely to be realized after the Phase I attainment date. Thus, where attainment occurs by the end of 1992, it will result largely from current programs, not the new SIP requirements imposed by this bill. Yet, businesses and residents in such areas will remain unnecessarily burdened by Phase I controls.

- Alternative fuels or power sources for fleets would require substantial and expensive infrastructure changes in the petroleum market. In addition, substantial questions remain to be resolved with regard to the long-term effects on air quality of alternative fuels. Finally, what does "lower emission characteristics" mean? Lower rates of evaporative emissions? Tailpipe emissions? How much lower?

- The across-the-board RACT requirement for all existing sources would force massive retrofitting — a particularly crushing burden on small businesses.

- Requiring RACT for NOx in all situations fails to recognize that the nature of the relationship between NOx reductions and ozone reductions has not been established under many circumstances. In fact, NOx reductions could increase ozone levels under some circumstances.

- The bill's ban on emission reduction trading is highly inflexible and cost-ineffective, and would retard rather than advance air pollution control.

- The bill's LAER requirement for major stationary sources would prevent industrial growth, dramatically increase costs, and, in many cases, shut plants down due to the highly restrictive redefinition of "major stationary source" imposed by the bill (see pp. 14-15 below).

- The requirement of "such other measures as may be necessary to provide for attainment" could result in sweeping additional controls — beyond RACT, beyond LAER — that inevitably would force plants to shut down.

2. Phase II

- The provision that an area is presumptively subject to Phase II requirements if its fourth highest daily maximum ozone reading over 3 years exceeds the ozone standard by more than 50% is unreasonable. Nonattainment areas should be given the alternative of having sanctions imposed, since in many cases sanctions may be less burdensome than Phase I or Phase II requirements. In any event, the bill's broad presumption is unjustified because ozone levels may have declined dramatically in many areas since the 50% higher reading was recorded.

- Furthermore, it is illogical to place an area in the strait jacket of having to submit a Phase I or Phase II plan, rather than risk imposition of nonattainment sanctions, merely because its "fourth highest" (i.e., "design value") ozone reading is more than 50% higher than the air quality standard. This arbitrary requirement ignores the true level of air quality in the area, which may be indicated more accurately by such measures as the number of predicted exceedences over the air quality standard. For example, Chicago currently has a design value of 0.20 parts per million (ppm), with 8 predicted exceedences over 3 years. Bakersfield, California, has a design value of 0.16 ppm, with 27 predicted exceedences. Chicago would be subject to the 50% presumption since its design value is more than 50% above the current standard of 0.12 ppm, but Bakersfield — despite its much higher number of exceedences — would not be. The bill's authors have failed to explain why such a result is necessary.

- Phase II transportation control measures would create nightmarish enforcement problems and force radical changes in lifestyles. Indeed, these requirements would create economic disruption that could rival anything this country has ever experienced. In the long term, these restrictions will force the relocation of U.S. businesses and industry — in many cases to foreign countries — which could lead to the loss of tens of thousands of jobs and billions of dollars in economic damage. City councils or other elected local bodies would have to implement new traffic and vehicle regulations (e.g., new tolls and traffic bans). Local and state proceedings to implement the measures would consume enormous periods of time and give rise to litigation. Some measures present especially serious problems. For example:

  - "trip reduction ordinances" likely will mean gas rationing, alternative driving days, and forced reductions in miles traveled per car or per person;

  - "vehicle restricted zones" could choke off business activity in downtowns and other areas;

  - "programs for improved public transit" could force states and localities to spend huge sums on mass transit that they cannot afford; and

  - fleet conversion under Phase II would be in addition to the Phase I fleet conversion requirement for large fleets and would therefore hit small fleets, imposing prohibitive costs on the smallest businesses and even on nonprofit organizations.

Finally, the measure provides no mechanism for exemptions for special categories of vehicles (e.g., ambulances and police vehicles) — an omission that could endanger public health and safety.

- The bill's percentage emission reduction requirements are short-sighted and counterproductive because they encourage adoption of expensive short-term, "quick fix" emission control strategies rather than long-term, real solutions to nonattainment.

- In any event, the periodic percentage reduction requirements are unattainable, either on an areawide basis or on a source-by-source basis. The areawide requirement assumes that further control opportunities are so plentiful that state agencies can line them all up and schedule them on a neat, smooth descending curve. The requirement that each major stationary source achieve these reductions is unrealistic for several reasons: effective emission technology, even if feasible, takes several years to develop, order, install, and begin operation; the bill requires lockstep emission reductions without regard to whether technology exists to achieve those reductions; the bill irrationally prohibits trading of emission reduction requirements among sources; and the bill's reversal of the flexible "bubble" approach now used to define "major stationary sources" puts annual emission reduction goals even further out of reach. Moreover, "major stationary sources" as redefined by the bill would in fact include many small sources. Furthermore, the source-by-source reduction requirement would apply even to sources that already are operating with state-of-the-art emission control equipment — thus forcing businesses to close, reduce operations drastically, move out of urban areas, or pay financially ruinous penalties or fines. Taken together, these factors make clear that the bill would produce a massive wave of shutdowns and relocation of large and small sources and enormous cost increases for consumers and for the businesses that manage to survive.

- The mandated percentage reduction requirements would, perversely, punish sources that implemented expensive control measures, particularly sources that implemented such measures before 1982 (for which the bill would provide no credit for emission reductions already implemented). Further emission reductions for these sources — even if technologically feasible — will likely be difficult and extraordinarily costly.

- The requirement of a $100-per-ton "fee" on emissions would compel state legislators or regulatory bodies to adopt new taxing measures. These taxes would apply across-the-board to essentially all stationary sources in any nonattainment area — including even the smallest sources. The financial burden could make the difference between continued operation and shutdown, particularly for small sources.

- "Excess emissions penalties" would be in addition to existing "noncompliance" penalties under Section 120 of the Clean Air Act — potentially imposing an unfair double penalty on sources in Phase II nonattainment areas.

- The minimum emissions penalty of $5,000 per ton is inequitable and confiscatory — in many cases far higher than the economic value of noncompliance. This approach constitutes a radical departure from the "economic value" policy adopted by Congress in the Section 120 penalty program.

- The bill provides no due process protections for those subject to the emissions penalty, raising serious constitutional questions.

- Two-for-one emissions offset requirement is clearly unrealistic. Even the 1-for-1 offset currently required is often unobtainable. The effect of the double offset provision would be a virtual ban on construction or modification of plants and other sources — even if the state fully complies with all other requirements of the bill!

- There is no rationale or legislative foundation for providing for a means of exempting one state — Rhode Island — from the Phase II restrictions.

II. Section 102 — Technology Requirements and Definitions for Nonattainment Areas

A. Summary of Key Provisions

- "Major stationary source" is redefined to include "each discrete operation, unit or other activity that produces or may produce" annually at least 25 tons of a pollutant (or a precursor of a pollutant) for which the area is nonattainment.

- "Reasonably available control technology" (RACT), as used in Phase I provisions, is defined as the emission standard or limitation that is "based on the maximum degree of reduction of emissions . . . that the permitting authority determines is achievable." The permitting authority also must consider the "potential toxic character" of the pollutant in determining RACT. RACT must be implemented through a permit system for existing sources, and applies to all "significant" sources or classes of sources as well as "major" sources. The bill requires EPA to issue control technique guidelines for 11 source categories within 2 years after enactment, and revise them within 4 years after enactment. If EPA fails to publish or revise a control technique guideline for a source category, emissions from each source in the category must be reduced 90% from uncontrolled emissions.

- The bill requires that, at a minimum, "lowest achievable emission rate" (LAER) for a given source must reflect the most stringent emission limitation in a permit issued under the Clean Air Act for any similar major stationary source. The bill requires the state or EPA to review emission limitations for other major stationary sources to identify the most stringent emission limitation, and to mandate emission reduction technology that is equivalent to the average of the highest 10% in terms of emission reduction in the same source category.

B. Comments on Section 102

- Redefinition of "major stationary source" would reverse long-standing EPA regulations, which the Supreme Court affirmed in its landmark decision in Chevron v. NRDC, 467 U.S. 837 (1984). By discarding the flexible "bubble" approach under current law and substituting a rigid unit-by-unit, activity-by-activity approach, the bill would impose crushing financial burdens on many sources; force businesses to forgo modernization, relocate, or shut down altogether; and disrupt long-term business planning in industry after industry. Investments in pollution control equipment would be deterred and air pollution control efforts would be retarded. And, since the bill reduces the threshold from 100 to 25 tons per year, it would capture many small sources and units not now subject to nonattainment permitting requirements, hitting small businesses especially hard.

- Redefined RACT is essentially LAER, effectively barring use of cost-effectiveness criteria that currently are allowed. The requirement of a permit system for existing sources would engender additional expense and regulatory problems for businesses. The bill also fails to define "significant" sources or classes of sources — a term that apparently would cover very small facilities and perhaps even residences. Further, the bill's specification of 11 source categories for which EPA must issue control technique guidelines — and the 2- and 4-year deadlines for issuance — unduly restrict the Administrator's discretion and would overburden EPA. And the 90% reduction requirement is ill-defined and unreasonable — punishing sources if, through no fault of their own, EPA fails to meet the bill's deadlines. The 90% reduction requirement would be imposed automatically regardless of the scientific evidence as to whether such reductions are needed from each source category. This emission reduction requirement is so severe that many sources will be unable to comply and will have to shut down, relocate, or drastically curtail operations. Again, small businesses will be hit the hardest.

- New LAER provisions would require states or EPA to engage in time-consuming surveys of existing limitations, likely producing long delays in permitting decisions. The "best 10%" requirement and "most stringent emission limitation" would have to be clarified by EPA rulemaking, and permitting decisions increasingly would become targets of litigation.

- These new definitions are not restricted to ozone or carbon monoxide nonattainment areas but apply also to areas that are nonattainment for other pollutants. Thus, this ill-considered legislation sweeps far too broadly even in terms of its own objectives.

III. Section 103 — Ozone Transport Regions

A. Summary of Key Provisions

- Establishes 2 ozone transport regions (OTRs) — the Northeastern and Middle Atlantic States (Maine to Virginia, plus Ohio) and the Great Lakes States (Illinois, Indiana, Michigan, and Wisconsin). Authorizes EPA to add states to any of the OTRs and establish new OTRs. An OTR commission (see below) may delete any state or county from the OTR if the commission determines that controlling emissions in the state or county will not contribute to attainment.
- A commission is to be established for each OTR and is to consist of a representative of (1) the governor of each state in the OTR, (2) the EPA Administrator, and (3) the Regional Administrator of each EPA Region "affected by" the OTR. Commission decisions must be by "agreement of the Administrator and a majority of the State members."
- Within 2 years after enactment, each attainment area in an OTR must comply with three requirements of Phase I: I & M, RACT-based emission reductions (if control technique guidelines have been published), and the prohibition on trading of emission reductions for existing sources.
- OTR commission must develop an "attainment strategy" and identify (1) additional source categories for which RACT must be adopted for nonattainment and attainment areas within the OTR, and (2) additional measures to contribute to ozone attainment. States must incorporate these additional requirements in their SIPs within 1 year of the OTR's identification of them.

B. Comments on Section 103

- **The bill's OTR scheme gives enormous power to the commissions and EPA at the expense of the individual states' traditional, long-standing authority under the Clean Air Act. Under the bill, the Administrator would effectively have a veto power over the governors of states in the region.**

- The OTR scheme essentially results in redesignation as nonattainment of all areas in all states in the region. Moreover, areas that would be attainment but for the OTR provisions would have to implement costly and disruptive control measures, including I & M, within 2 years of enactment — an infeasible deadline that may in fact occur before such measures are implemented in true nonattainment areas.

- If the concept has any validity at all, a "transport region" should be determined only through careful scientific studies — not legislative fiat.

- Commission decisions would force states to adopt stringent and costly control measures for both attainment and nonattainment areas within 1 year of a commission decision. Meaningful public participation would be impossible under this strict deadline, and states would have insufficient time to adopt the most cost-effective emission control programs.

- Commissions will not even have been established until 6 months after enactment — 3 months after states must decide whether to comply with Phase I. States therefore would have to make major planning decisions with no knowledge of commission decisions.

- Since commissions would make decisions by majority vote of the states, a group of states in an OTR could vote to impose inequitable burdens on one state or a minority of states in the region.

IV. Section 104 — Noncompliance Sanctions

A. Summary of Key Provisions

- Bill mandates a construction (and modification) moratorium for major stationary sources in a nonattainment area if the applicable attainment date has expired and the area remains nonattainment, or the state has not submitted a Phase I or Phase II SIP revision, or the state has failed to submit a SIP revision to conform to a new or revised primary air quality standard or a notice of SIP inadequacy, or the state has failed to implement Phase I or Phase II or federal hydrocarbon emission controls.
- Bill mandates highway fund cutoffs (except for specified kinds of projects) in any nonattainment area that remains nonattainment after the applicable attainment date or if the state has not submitted SIP revisions or implemented Phase I or Phase II or federal hydrocarbon emission controls.
- Bill bars use of any publicly owned treatment works (POTW) with a Section 402 Clean Water Act permit by any source not previously using the POTW in any nonattainment area if the state has not submitted a Phase II plan (if required) or if the state or responsible local government is not implementing the plan's provisions for percentage emission reductions, emission fees and penalties, or 2-for-1 emission offsets.

B. Comments on Section 104

- **Section 104 is unnecessarily rigid. It gives EPA and other authorities virtually no discretion to fashion enforcement measures designed to reduce emissions in a reasonable manner consistent with the Act's objectives. Rather, the bill punishes states and sources for noncompliance regardless of their good-faith efforts. In any event, these stringent sanctions are unfair given the unreasonable requirements imposed on states and sources by the bill as a whole.**

- The construction ban unfairly penalizes industry and consumers for failure to attain an objective that in many respects they are powerless to attain. The ban also is counterproductive in that it bars modernization and new source growth, which would result in lower-emitting, better-controlled sources.

V. Section 105 — Technical and Planning Assistance

A. Summary of Key Provisions

- Authorizes EPA to make grants to states for developing SIP revisions to implement nonattainment requirements or to implement new or revised air quality standards.

- Requires EPA to make grants to "nonprofit organizations in any nonattainment area" to pay for their participation in proceedings to implement the bill's requirements.

B. Comments on Section 105

Bill merely authorizes EPA to assist states, which bear the brunt of developing the complex regulations required to implement this legislation. By contrast, the bill compels EPA to give federal money to "nonprofit organizations" — a subsidy provided to favored groups at taxpayer expense. Moreover, allowing these funds for nonprofit organizations, but not for otherwise qualified for-profit organizations as well, raises serious questions as to the purpose and equity of the provision.

VI. Section 106 — Outer Continental Shelf (OCS) and Vessel Activities

A. Summary of Key Provisions

- Directs EPA to provide that any source of air pollution resulting from an activity regulated under the Outer Continental Shelf Lands Act (OCSLA) that occurs in the OCS or in or on the waters above the OCS-- regardless of whether the source is a stationary source or a vessel -- must meet all Clean Air Act requirements as if the activity occurred in the adjacent state or locality.

- Requires EPA to assure that OCS sources do not prevent or interfere with attainment or maintenance of any ambient air quality standards, including state or local standards contained in the SIP.

- Authorizes states to control, as part of the SIP process, emissions from any vessel while in the state's ports or (while engaged in OCSLA-regulated activities) in or on OCS waters or on tidal waters within the state's boundaries.

B. Comments on Section 106

- This provision would conflict with Congress' mandate to balance energy development — including offshore energy development — with environmental concerns. Indeed, this provision constitutes a backdoor moratorium on critical energy development efforts in the Outer Continental Shelf. Furthermore, the provision would lead to a multitude of regulatory regimes on the OCS, fragment the regulatory programs under which industry operates, and give a single locality the ability to stop all future development. The provision assumes, without any technical basis, that OCS emissions are a major cause of coastal ozone exceedences. The provision also would undermine the continuing negotiations among federal, state, and local agencies, the petroleum industry, and the environmental coalition that now is proceeding to develop new OCS air quality regulations for offshore California. In addition, it would undermine the use of the data collected as part of the

South Central Coast Cooperative Aerometric Monitoring Program (SCCCAMP) to perform analyses of the mechanisms of ozone formation, and use of that data for regional photochemical modeling.

- The bill's vessel emission control provisions conflict with the need for uniformity and consistency in vessel emission requirements, potentially creating serious impediments to the smooth operation of United States and international shipping.

TITLE II — ACID DEPOSITION CONTROL

I. Section 201 — Interstate Transport and Acid Precursor Reduction (Proposed Part E of Title I of the Clean Air Act)

A. Emission Control Plans (Proposed SS 181, 182, and 184 of the Clean Air Act)

1. Summary of Key Provisions

a. Nationwide Emission Reductions (Proposed § 181)

The bill mandates, by January 1, 1996, total nationwide emission reductions of 12 million tons of sulfur dioxide (SO2) and 4 million tons of nitrogen oxides (NOx), below the total actual annual emissions of those compounds in 1980.

b. Statewide Emission Reductions and State Plans (Proposed § 182(a), (b))

- The bill requires each state, by January 1, 1996, to achieve from all major fossil fuel fired steam generating units (both utility and nonutility) within its borders that were in operation during any part of 1980: (1) an annual statewide average emission rate of 0.9 pounds of SO2 per million British thermal units of heat input (#/MBtu) and (2) an annual statewide average emission rate of NOx that is not greater than the rate determined by the Administrator to be equivalent to 0.6 #/MBtu on a 3-hour average.

- Also, each state must adopt "additional enforceable measures," including controls on other stationary sources in the state, to achieve annual reductions in total emissions. Specifically, the state must ensure (1) a reduction in annual statewide emissions of SO2 (below 1980 levels) that is equal to that fraction of 12 million tons that represents the ratio of (a) all utility SO2 emissions in the state emitted at a rate in excess of 0.9 #/MBtu during 1980 to (b) the nationwide total of utility SO2 emissions in excess of 0.9 #/MBtu during 1980;*/ and (2) a reduction in annual statewide emissions of NOx that is equal to that fraction of 4 million tons that represents the ratio of (a) all estimated NOx emissions in the state during 1980 to (b) the estimated nationwide total of NOx emissions during 1980.

- State control plans must include enforceable measures to ensure achievement of these reductions. Each plan must include *source-specific requirements*. The plan must require:
  - *continuous emission reduction (e.g., flue gas scrubbers)*, "including *for each source* limitations on emission rate, assumed rates of operation [i.e., capacity factors], and limitations on aggregate annual emissions consistent with such assumed rates of operation"; and
  - *continuous emission monitors* for each source "and *additional monitoring* by enforcement agencies."
- Each state must prepare its plan in accordance with the bill's instructions, adopt it in final form, and submit it to EPA — *all within 2 years after enactment of the bill*. EPA then has 6 months to determine whether to adopt the state submittal as a federally enforceable plan. (If a state has not submitted its plan and received EPA's approval of the plan within 2 years and 6 months after enactment, *each* fossil fuel fired steam generating

---

*/ For discussion purposes, assume that State A emitted a total of 500,000 tons of SO2 from utilities in 1980 at a rate in excess of 0.9 #/MBtu; and further assume that nationwide utility SO2 emissions emitted at a rate in excess of 0.9 #/MBtu totaled 10,500,000 tons in 1980. Thus, State A would be required to reduce SO2 emissions at a ratio equal to 1/21 (500,000/10,500,000). State A would have to reduce its total emissions by an amount equal to 1/21 of 12,000,000 tons, or 570,000 tons below the 1980 level of emissions in that state. Thus, State A would be required to achieve an additional 70,000 tons reduction in SO2 emissions, a reduction significantly higher (14%) than that necessary to achieve a statewide SO2 emission level of 0.3 #/MBtu.

unit in the state will have to comply with uniform, across-the-board emission limits (described below).)

c. Limitations on Permitted Compliance Methods (Proposed § 182(b))

- Even if the state and EPA act quickly enough to develop and approve a control plan that satisfies the bill's commands, each source subject to the plan will face constraints on the means by which it can satisfy the plan's requirements. Within 3 years after enactment, each stationary source that is "subject to an emission limitation" under the bill must "certify to the State" the means that it will use to comply with each emission limitation, and the extent to which it will use each means. Only certain means are permitted, and they may be used in combination with one another. The permitted compliance methods are:
    - fuel substitution;
    - "installation of a system of continuous technological emission reduction";
    - retirement of existing facilities; and
    - implementation of "enforceable" energy conservation measures.
- Within 5 years after enactment, any source that fails to provide the required certification by the bill's 3-year deadline, or that certifies that it will meet an emission limitation in whole or in part through fuel substitution, must be in full compliance with the emission limitation. Within 5 years after enactment, any source that certifies that it will comply with an emission limitation through other permitted measures (i.e., installation of a continuous emission reduction system, facility retirement, or enforceable conservation measures) must conclude "binding

contractual commitments to acquire, install, [or] construct" a continuous emission reduction system, or retire existing facilities, or "provide such services as needed to implement any energy conservation measure," as the case may be. In any event, each stationary source must be in compliance with each applicable emission limitation no later than January 1, 1996.

d. Prohibition on Emission Rate Increases (Proposed § 182(b))

- The bill apparently prohibits any major stationary source from exceeding its 1980 rate of actual emissions of SO2 or NOx, unless a "simultaneous-offset" requirement is satisfied. This prohibition apparently is effective immediately upon enactment, since it contains no effective-date provision.

- Under the bill's "simultaneous-offset" rule, an increase in a source's emission rates above 1980 actual emission rates is prohibited unless there has been identified and assigned to that source a "simultaneous net reduction in emissions" of SO2 or NOx, as the case may be, "at one or more points in excess of the proposed increase in emission rate." The offsetting emission reductions must be in addition to emission reductions required by § 110 (state implementation plans) or § 111 (new source performance standards) of the Clean Air Act or by other provisions of Title II of the bill.

e. Specific Restrictions on Compliance Methods (Proposed § 184)

- The bill imposes specific restrictions on methods used to attain the bill's emission reduction requirements or to maintain the bill's prohibition on emission rate increases above 1980 levels. The bill permits states or sources to use only certain specified means in addition to continuous emission reduction measures to attain the bill's emission reduction requirements or maintain its prohibition on emission increases. These measures (which must be enforceable under the Clean Air Act) are:

- energy conservation;
- least-emissions dispatch;
- early retirement of sources;
- trading of emission reduction requirements and actual reductions "on a State or substate basis"; and
- precombustion fuel cleaning.

° The bill apparently prohibits any interstate trading for purposes of satisfying the bill's emission limitations and emission reduction requirements.

° With regard to conservation measures, the bill provides that, if a state includes in its control plan an electricity conservation program that the state certifies will result in SO2 or NOx emission reductions, the state "may calculate the extent of the emissions reduction accomplished by such program of conservation, and may comply with the [emission reduction] requirements of sections 181 and 182 by substituting such emissions reduction for a portion of the total emissions reductions attributable to the emissions rate limitations of section 182(a) [an annual SO2 rate of 0.9 #/MBtu and an annual NOx rate equivalent to a rate of 0.6 #/MBtu on a 3-hour average]. Such emissions rate limitations may be adjusted to reflect such substitution."

2. Comments on Emission Control Plan Provisions

a. Legislation Lacks Scientific Basis and Threatens Economic Disruption

- **Title II of the bill is premised on the view — based on congressional "findings" stated in proposed Section 180 of the Act — that any harm that might be associated with acid** deposition can be prevented and remedied by mandating huge additional reductions in emissions of SO2 and NOx. The congressional "findings" in the bill are unfounded legislative pronouncements that misrepresent the available scientific evidence. Simply put, the current scientific evidence concerning acid deposition and its causes and effects does not warrant the extreme reductions imposed by this bill. Substantial uncertainties exist regarding the cause, magnitude, and extent of possible environmental damage from suspected acid-deposition precursors. As the EPA Administrator testified to the Senate Environmental Protection Subcommittee on April 22, 1987, acid deposition legislation is unwarranted:

> "I see no compelling need for any near-term amendments to the Clean Air Act to require acid rain controls, given our current lack of understanding of either the quantitative nature of the problem or the quantitative benefits of any particular acid rain proposal, and given the research results we expect to see in the next one or two years."*/

- This bill's emission control scheme not only is scientifically unjustified; it also could cause widespread economic and social disruption. For example, utilities would have to abandon sound principles of "economic dispatch" and engage in costly and disruptive "environmental dispatch" to satisfy the bill's commands. Given these effects, the bill would endanger the reliability of the nation's electric generation and distribution network, and would raise utility rates substantially for all segments of the economy, hitting particularly hard the basic industries that already are suffering from severe international competition. In addition, the bill would reduce demand for high-sulfur coal, throwing coal miners out of work and increasing this country's reliance on foreign energy sources. Moreover, due to its early compliance dates, the bill would reduce electric utilities' ability to use innovative clean coal technologies.

---

*/ Statement of Lee M. Thomas, Administrator, U.S. Environmental Protection Agency, Before the Subcommittee on Environmental Protection of the Committee on Environment and Public Works, United States Senate, Apr. 22, 1987, pp. 16-17 (emphasis added).

- The bill's NOx emission rate requirement could have devastating consequences for electric utilities and other industries. The bill directs EPA to calculate a statewide annual average emission rate based on a 0.6 #/MBtu 3-hour average; thus, the annual average necessarily will be substantially lower than 0.6 #/MBtu. This standard could be even more stringent than the strict "new source performance standards" for NOx emissions from utility power plants that are already in place under the Clean Air Act. Under the bill's NOx standard, many utility and industrial power plants, particularly in states with coal-burning plants, could be forced to install extremely costly and inadequately demonstrated control systems such as SCR — or else shut down.

- The bill's ban on interstate trading — even where a utility system crosses state borders — is irrational and adds greatly to the bill's inefficiency and enormous costs.

- It is unclear how the bill's ban on increases above 1980 emission rates would apply to sources that were not operating in 1980, since such sources of course had no emissions — and therefore no emission rates — in 1980. However, the bill could be construed to require all emissions of a source constructed after 1980 to be offset by emission reductions elsewhere — an extraordinarily disruptive requirement that could force plants to close and prevent new plants and new capacity from being built.

- Ironically, the bill would produce the negative effects described above even though the Clean Air Act already is efficiently controlling and reducing emissions of suspected acid deposition precursors.

b. Requirement for Continuous Emission Monitors Is Neither Feasible, Necessary, Nor Cost-Effective

- The bill's requirement that sources be retrofitted with continuous emission monitors (CEM) is not feasible. Over the past 10 years, only 40 CEM systems have been produced annually from the existing 4 or 5 suppliers. Because an 8-month delivery time is required for a CEM for a single unit, and many hundreds of units would potentially be covered by the bill's CEM requirement, there currently does not exist sufficient capacity to manufacture and deliver the required CEM systems within the timeframe contemplated by the bill.

- Moreover, the CEM requirement is neither necessary nor cost-effective, particularly in the case of utilities. CEM is clearly inappropriate and wasteful for purposes of compliance with annual average emission rates. Since the only utility units that currently must monitor SO2 stack emissions are those that elect to employ firebox (e.g., limestone injection) or post-combustion (e.g., scrubber) controls, units that burn low-sulfur fuels currently may demonstrate compliance through fuel sampling and analysis at a fraction of the estimated installation ($115,000) and operating and maintenance ($49,000 per year) costs of CEM units. The bill unreasonably would prohibit sources from relying on this established, cost-effective alternative.

c. Legislation Undermines Congress' New Clean Coal Technology Program

Few of the many new and innovative technologies currently at various stages of development will have been adequately tested in time for sources to certify — as they must do within 3 years of the bill's enactment — that they intend to rely on such technologies to meet the bill's emission limitations. New clean coal technologies will take several years to demonstrate commercial applicability and reliability. Because of the bill's strict timetables and other requirements, this legislation would severely set back, if not destroy, Congress' program to encourage clean coal technologies.

d. Certification Requirement Threatens To Retard Development of New Technologies, Generate Additional Confusion as to Permitted Compliance Methods, Handcuff Sources, and Disrupt Markets

The bill requires each source, within 3 years of the bill's enactment, to certify to the state the means by which it will achieve emission limitations. This provision presents substantial problems:

- Only certain methods of compliance are allowed. Thus, for example, proposed Section 182(b) could be construed to exclude precombustion fuel cleaning (e.g., "coal washing") from the methods on which a source may rely. As a result, the bill could artificially channel expenditures for control technology into economically inefficient areas, and will cause technologies that are new or innovative or more efficient — or simply different from the ones listed in the bill's "certification" provisions — to disappear, or will prevent the market from developing them in the first place.

- The provisions listing the permitted emission reduction measures under the "certification" provisions of Section 182(b) are inconsistent with proposed Section 184. Section 182(b) appears to authorize a source to use fuel substitution; Section 184 omits fuel substitution from the list of authorized compliance methods. Conversely, Section 184 appears to authorize a source or a state to rely on least emissions dispatch, intrastate trading of emission reductions or reduction requirements, or precombustion fuel cleaning; Section 182(b) seems to prohibit a source from relying on such methods. The bill's self-contradiction will, at a minimum, generate mass confusion, administrative nightmares, and a wave of legal disputes.

- Furthermore, during the period of 2 years (or longer) between certification by the source and the "contractual commitment" deadline, a source that certified that it would rely on scrubbers, retirement, or conservation could not decide to rely on fuel substitution instead. The source would have to abide by its original choice, made without the benefit of knowing what market conditions would be 2 years down the road. This provision, therefore, promises to be extremely costly and inefficient.

- The consuming public will have to pay the hidden, potentially enormous costs imposed by this bill's attempt to "micromanage" companies' financial decisions. And the bill would retard, rather than advance, pollution control efforts by deterring innovation and development of promising new control technologies.

e. Bill Would Result in Generation of Enormous Quantities of Scrubber Sludge, Creating Massive Environmental Problems

In a June 9, 1987, letter to Senator Warner, Assistant EPA Administrator J. Craig Potter stated that S. 321, which formed the basis for — and is virtually identical to — Title II of this bill, "could increase [scrubber] sludge production by as much as 37 million tons" per year from coal-fired power plants by the year 2000. This amount, reported Potter, would be in addition to the 50 million tons of scrubber sludge projected to be produced annually by 2000 without any changes in current law. The total amount of sludge produced could cover the entire state of Rhode Island up to a foot deep in less than 5 years. However, the authors of this legislation have completely failed to address the environmental disaster that the nation would face if the bill were enacted. This failure is particularly inexcusable given the serious waste disposal problems facing many communities throughout the country.

B. "Default" Requirements and Long-Term Controls (Proposed § 183 of the Clean Air Act)

1. Summary of Key Provisions

- If a state has not submitted a control plan to EPA and received EPA's approval of that plan within 2 years and 6 months after enactment of the bill, each fossil fuel fired steam generating unit in the state that is a major source of SO2 emissions will be subject to a flat emission limitation for SO2 of 0.9 #/MBtu on a monthly average.

- Moreover, as part of its state plan, to be submitted within 2 years after enactment, each state must adopt "enforceable measures to implement" one of two long-term SO2 control strategies. The state must either:

  - require, beginning January 1, 1996, that any fossil fuel fired steam generating unit on which construction has been completed for 30 years or more must not exceed an SO2 emission rate of 0.9 #/MBtu on a monthly average; or

  - ensure that, on and after January 1, 1996, aggregate statewide SO2 emissions do not exceed a ceiling that is equal to the actual statewide emissions in 1980 minus the emission reductions that are necessary to achieve the state's assigned "share" of the 12-million-ton nationwide SO2 emission reduction.

2. Comments on "Default" Requirements and Long-Term Controls

a. Preemption of State Emission Control Planning Would Escalate Costs and Could Force Plant Shutdowns

- **The bill requires states to formulate, and EPA to approve, plans for further statewide reductions in emissions — beyond the major reductions already required under existing law. Although these reductions are far more stringent than is warranted by the scientific evidence, this statewide "bubble" approach would** permit states at least some flexibility to balance emission reduction requirements among emission sources to minimize the economic and social damage caused by this legislation. However, as explained below, the deadlines imposed by the bill on the development and approval of these plans are so unrealistically tight that the bill's "fallback" emission control scheme — mandating across-the-board, unit-specific emission ceilings for SO2 — is virtually certain to preempt the bubble approach in most cases.

- Under this "bubble-bursting" scheme, each steam-generating unit — regardless of its current level of emissions, regardless of its design, regardless of its age, regardless of the type of fuel it uses, regardless of air quality, regardless of local conditions — must meet the same emission reduction requirements. Indeed, an individual company could not even balance emissions among the various units within a plant, or among the different plants within its system.

- The requirement that each source meet a 0.9 #/MBtu limit on a monthly average — rather than an annual average as in the case of statewide rates — adds substantially to the economic costs of this scheme.

- Since uniform, across-the-board unit-by-unit controls are far more economically inefficient and disruptive than flexible bubble approaches, the bill's bubble-bursting scheme is a recipe for still higher costs to the public and still greater economic dislocation. Source owners and operators — and the consuming public — would be penalized because of states' and EPA's inability to meet unreasonable deadlines.

b. Impossible Schedules for Development and Approval of State Plans Virtually Ensure the States' and EPA's Administrative Failure

- The bill's time limits on the development and approval of state plans would be virtually impossible to meet in any rational fashion. Under the bill, states would have to develop and submit their plans in final form to EPA within 24 months after enactment. However, the states would need detailed guidance from EPA before they could even begin to develop their plans. Given the need for public comment (and EPA's considered response to public comments), development of guidance alone easily could consume most, if not all, of the 24-month period. In any event, insufficient time would remain for states to begin, let alone complete, the difficult and expensive work of drafting proposed plans, receiving and considering comments on those proposals, conducting public hearings, and putting the proposals in final form for submission to EPA.

- Moreover, even if the states somehow could meet the deadline for submission of their plans, it is difficult to see how EPA could review — essentially simultaneously — and determine whether to approve all 55 "state" plans within the bill's permitted time of 6 months after the receipt of each plan. (Revisions to state implementation plans under § 110 of the Clean Air Act typically take from 8 to 48 months for EPA's review and approval.) It is even more difficult to see how the states would have time to adopt revisions to their plans to correct any deficiencies that EPA identifies during the Agency's review. And, even if a state did have time to accomplish such a task, EPA would lack time to review and approve the revised plan before expiration of the bill's deadline.

- Given the rigid and unrealistically demanding deadlines for development, submittal, and approval of state control plans under this bill, sources in most states will be unable — through no fault of their own — to avoid the unit-by-unit SO2 controls that will take effect if those deadlines are missed. In other words, in most cases, the statewide bubble will be burst, dramatically escalating the already enormous economic and social costs associated with this legislation.

c. Long-Term Emission Controls Promise To Aggravate Economic Dislocation

- The bill requires states to adopt one of two long-term emission control programs. Either alternative threatens to create serious economic problems by forcing some steam generating plants to shut down even though they remain useful components of the nation's electricity generation system. In addition, these provisions of the bill needlessly would distort the nation's electric utility system by discriminating against states with older plants.

- Under the first alternative available to a state, any generating unit that, at any given time on or after January 1, 1996, is at least 30 years old must meet a limit on SO2 emissions of 0.9 #/MBtu on a monthly average. If a state chooses this alternative, its older units will be subject to across-the-board, unit-by-unit controls, even while newer units in the state are subject only to a more flexible statewide "bubble" of 0.9 #/MBtu on an annual average.*/ Such a result would disrupt many electric-utility networks, since older units frequently are used as intermediate-load or peak-load facilities — essential elements of a reliable electricity generation system. Because many of these units could not meet a 0.9 #/MBtu monthly average, they would have to shut down — creating enormous costs for the consuming public and endangering the ability of utilities to provide a reliable and uninterrupted supply of electricity for the nation's homes and businesses.

---

*/ Of course, in the likely event that the deadline for state submittal and EPA approval of the state's control plan is missed, each unit in the state, regardless of age, will be subject to the 0.9 #/MBtu rate (monthly average). If this occurs, the economic damage that would result from rigid across-the-board controls on older plants will be multiplied throughout the nation's electricity generation network.

- The second alternative that states may choose is no less unattractive. Under that option, all sources of SO2 in the state would be subject to a statewide emission limit equal to the actual annual statewide emissions in 1980, minus the additional reduction needed to make up the state's "share" of the nationwide 12-million-ton SO2 reduction. This alternative would prove extremely costly to utilities and other industries and to consumers, and would prevent much-needed economic growth by inflexibly imposing an artificial emission limitation tied to past industrial activity.

II. Section 201 — "Clean Coal Technologies" (Proposed Part F of Title I of the Clean Air Act)

A. Summary of Key Provisions

- The bill directs the Secretary of Energy, acting jointly with the EPA Administrator, to implement a program for the commercial deployment of clean coal technologies to "significantly reduce air emissions of sulfur dioxide or oxides of nitrogen resulting from the utilization of coal in the generation of electricity or industrial process steam."

- Under this program, DOE and EPA may provide grants or enter into contracts or other agreements to provide assistance to facilities. Within 180 days after enactment, DOE and EPA must publish regulations establishing the program.

- DOE and EPA must publish 2 solicitations for proposals for clean coal technology projects — the first within 210 days after enactment, the second within 21 months after enactment.

- Applications in response to a solicitation must include a "proposed deployment plan setting forth the various phases of the project," and must provide that the clean coal technology "will be installed and operational" no later than 36 months after the date on which the project application is granted.

- Selection Criteria — DOE and EPA may grant an application only if the project will:

  - use technology appropriate for retrofit on a significant number of existing coal-fired sources of SO2 or NOx emissions;

  - help reduce transboundary movement of acid deposition precursors from the United States to Canada;

  - significantly reduce SO2 or NOx emissions from coal combustion or cut emission reduction costs substantially in comparison with conventional technology;

- reduce SO2 or NOx emissions at no greater cost than conventional technology;
- use coal mined in the United States; and
- be located at a facility in the United States.

The bill directs DOE and EPA to: (1) give priority to those projects that reduce emissions at the least cost and that would be appropriate for retrofit at existing sources that use high-sulfur coal; and (2) assure that, consistent with the selection criteria, selected projects "represent a broad variety of coal types and reasonable geographic diversity."

- DOE and EPA must reach a decision whether to select a project within 90 days of receiving the application.
- Prohibition — DOE and EPA may not select for assistance any project that "incorporates reductions in air emissions of sulfur dioxide or oxides of nitrogen which are required according to a State implementation plan" (SIP) under the Clean Air Act. Also, no SO2 or NOx emission reductions achieved by a source through a project assisted under this program may be available for emission banking or trading to achieve compliance with a SIP by any other source.
- Cost-Sharing — The bill bars federal funds for any project from exceeding 50% of the project's cost (including the entire capital cost and operating costs in the project's first 2 years), and limits federal outlays for cost overruns.
- The bill establishes a Clean Coal Technologies Advisory Committee made up of members selected by the Secretary of Energy and the EPA Administrator, and 3 "representatives" of Canada's Minister of Environment.
- The bill authorizes $500 million in each of fiscal years 1988-92.

B. Comments on the "Clean Coal Technologies" Provisions

- This "clean coal" section of the bill is, in fact, a mirage. As the following comments show, the bill would do nothing to promote innovative technologies to allow coal combustion at low emission levels. Rather, by deflecting attention from true clean coal technology programs, this legislation would actually hinder progress toward the goal of developing commercially useful clean coal technologies.

- The bill's clean coal scheme is illusory because very few sources will be able to implement and operate clean coal technologies in time to comply with the bill's acid deposition control provisions — including the requirement that sources decide on and certify as to compliance methods within 3 years of the bill's enactment. Clean coal technology is a real solution to potential air quality problems, but it is not a solution that can be implemented in a meaningful way in such a short period of time.

- The bill's prohibition on assisting projects under this program as a means of complying with SIP emission limitations — both the existing SIP requirements and SIP requirements that would have to be imposed under this bill — is counterproductive and self-defeating. The primary goal of any clean coal technology program should be to help sources find cost-effective ways to reduce emissions to protect public health and welfare — and to meet SIP requirements that are specifically designed to protect public health and welfare. The bill's prohibition on using assisted projects to comply with SIPs is, therefore, absurd and renders its clean coal provisions meaningless.

- In any event, this legislation imposes unduly rigid requirements on clean coal technology development. For example:

  - The bill requires project applications to provide that the project will be in operation within 36 months of its selection for assistance. This provision would in many cases call on project applicants to engage in crystal-ball forecasting. More important, the bill would discourage promising technologies that may require substantial periods of time — perhaps much longer than 36 months — to be deployed.

- The bill appears to allow assistance only for retrofit technologies, barring aid to critically important repowering technologies. There is no reason to limit the scope of the program in this way.

- The provisions directing DOE and EPA to select projects that represent a broad variety of coal types, that would be appropriate for retrofit at existing sources that use high-sulfur coal, and that would reduce transboundary pollution, taken together, suggest that projects in the West might well be frozen out of the program. Such projects are likely to rely on low-sulfur coal and on repowering (rather than retrofit) technology, and are unlikely to reduce significantly any transboundary pollution that may be occurring. The transboundary provision probably would exclude most projects in Southern states as well.

- The requirement that technology deployed by an assisted project achieve emission reductions at a cost no greater than that of conventional emission reduction technology is misguided. Innovative technologies are, in many cases, likely to be more expensive than conventional technology, at least in the short run. Costs of new technology can be expected to decline in the long run, however, as technological breakthroughs occur and as engineering and mass production and marketing programs are developed.

- The bill is further flawed by its omission of provisions encouraging selection of projects that achieve low-cost power. This should be a key feature of any clean coal technology assistance program.

- No justification exists for including representatives of the Canadian government on the Clean Coal Technologies Advisory Committee, which is to advise the Secretary of Energy and the Administrator on how to spend money from the United States Treasury to promote clean coal technology projects in the United States.

III. Section 202 — Interstate and International Pollution Provisions (Proposed Amendment to § 110(a)(2)(E) of the Clean Air Act)

A. Summary of Key Provisions

The bill requires each state to amend its state implementation plan (SIP) to prohibit any stationary source within the state from emitting any air pollutant in amounts that will contribute to atmospheric loadings of pollutants or their transformation products which may reasonably be anticipated to cause or contribute to an adverse effect on public health or welfare or the environment in any other State or foreign country.

B. Comments on the Interstate and International Pollution Provisions

- This SIP amendment required by the bill is unwarranted and irrational. The existing national ambient air quality standards, and the programs to implement them, already accomplish the objective of this provision. If a need for revisions to the standards or implementation plans becomes clear, it is the EPA Administrator exercising his standard-setting responsibility — not each state acting on its own — who should take action to address the problem. In any event, no need for modification of existing standards has been demonstrated.

- In any event, the Clean Air Act already contains provisions fully adequate to address any harm that may be demonstrated from transboundary pollution. Section 126 of the Act authorizes states and subdivisions of states to petition EPA for a finding that any major source in another state emits pollutants that interfere with applicable air quality standards and other Clean Air Act measures designed to protect public health and welfare. And Section 115 of the Act establishes a procedure for remedying air pollution from United States sources that "may reasonably be anticipated to endanger public health or welfare in a foreign country" — as long as EPA determines that the foreign country gives the United States equivalent rights with respect to pollution from that country (an important assurance of reciprocity that this bill ignores).

- To the extent that scientific evidence concerning interstate or international violations of air quality standards may warrant in the future specific regulation of transboundary pollution, these existing provisions — Sections 126 and 115 — of the Act will provide adequate authority for necessary action. They should not be by-passed by this ill-considered provision.

TITLE III — MOBILE SOURCE AND OTHER FEDERAL CONTROLS

I. Section 301 — Vehicle Emission Standards and Related Requirements

A. Summary of Key Provisions

1. Light-Duty Vehicle and Light Truck Standards

- The bill requires EPA to impose a hydrocarbon emission standard for light-duty vehicles, manufactured during or after model year 1992, of 0.25 gram per vehicle mile (gpm).

- The bill requires EPA to impose a nitrogen oxide (NOx) emission standard for light-duty vehicles, manufactured during or after model year 1990, of 0.4 gpm.

- The bill requires EPA to impose a particulate emission standard for light-duty vehicles, manufactured during or after model year 1990, of 0.08 gpm.

- The bill requires EPA to impose emission standards for light-duty trucks, manufactured during or after model year 1990, of:

  - 0.5 gpm for NOx;

  - 0.5 gpm for hydrocarbons;

  - 0.08 gpm for particulates; and

  - 5.0 gpm for carbon monoxide (CO).

- For purposes of these emission standards, the bill defines "light-duty truck" as any motor vehicle that has a gross vehicle weight of 8,500 pounds or less and a curb weight of 6,000 pounds or less and that (1) is designed primarily to transport property or is a derivation of such a vehicle, (2) is designed primarily for transportation of persons and can carry more than 12 persons, or (3) has special features enabling off-road use.

- The bill redefines "light-duty vehicle" as any motor vehicle with a gross vehicle weight of 6,000 pounds or less.

- The bill requires EPA to impose formaldehyde emission standards for light-duty vehicles (manufactured during or after model year 1990) and from light-duty trucks (manufactured during or after model year 1991) that may be fueled, in whole or in part, by fuels other than gasoline. These standards may not allow formaldehyde emissions at a higher rate than from comparable gasoline-fueled vehicles.

2. Heavy-Duty Vehicle Standards

- The bill requires EPA to impose NOx emission standards for heavy-duty vehicles of 4.0 grams per brake horsepower-hour (g/bhp-hr) for vehicles manufactured during or after model year 1991 and 1.7 g/bhp-hr for vehicles manufactured during or after model year 1995.

- The bill requires EPA to impose particulate emission standards for heavy-duty diesel vehicles of 0.1 g/bhp-hr, beginning in model year 1991 for buses and in model year 1994 for other heavy-duty vehicles.

3. Motorcycle Standards

- The bill requires EPA to impose exhaust and evaporative emission standards for motorcycles, manufactured during or after model year 1992, that do not exceed standards applicable to light-duty vehicles.

4. Onboard Hydrocarbon Controls

- The bill directs EPA to require the use of onboard hydrocarbon control technology for all vehicles manufactured during or after model year 1991. Such technology must be "designed to accommodate all available fuels."

5. Ban on Engines Requiring Leaded Gasoline

   - The bill requires EPA to prohibit, for vehicles and engines manufactured during or after model year 1991, the manufacture or sale of any engine that requires leaded gasoline.

B. Comments on Section 301

1. General Comments on Vehicle Emission Standards and Related Requirements

   Existing automobile emission standards leave little room for perceptible air quality improvements because current standards reflect a 96% reduction in hydrocarbon and carbon monoxide emission levels, a 76% reduction in NOx emission levels, and an 80% reduction in particulate matter emission levels. Mobile source emissions are expected to decrease further as older vehicles with less sophisticated emission systems are retired from service and new, more stringent truck standards take effect. Thus, substantial progress toward reducing motor vehicle emissions further is already assured under existing requirements. Finally, the bill ignores the adverse impacts of these requirements on automobile manufacturers and their customers.

2. Light-Duty Vehicle and Light Truck Standards

   - 0.25 gpm hydrocarbon standard for light-duty vehicles — With foreseeable technology, the proposed standard cannot be met by most engine families, given that vehicles must meet these standards in use. Most hydrocarbon emissions occur before the engine reaches normal operating temperatures. The proposed additional 40% reduction in hydrocarbon emissions could only be achieved by dramatically reducing the fuel-to-air ratio during the first few minutes of vehicle operation and locating the catalyst closer to the engine. Reducing the fuel-to-air ratio would cause significantly more difficult starting, frequent stalling, and, consequently, a likely high degree of customer dissatisfaction. Locating the catalyst too close to the engine reduces the longevity of state-of-the-art catalyst systems.

- 0.4 gpm NOx standard for light-duty vehicles — Further tightening of nationwide automobile NOx standards is not warranted. Only 3 counties in southern California are not now in attainment with the national air quality standard for nitrogen dioxide, and California already has uniquely more stringent NOx requirements. Further, the potential contribution of automobile NOx emissions to acid deposition is minimal. The proposed additional 60% reduction in NOx emissions, however, could have a significant adverse effect on automobile fuel economy and driveability.

- 0.5 gpm light truck NOx standard — The proposed 60-70% reduction in the light truck NOx standard could reduce average vehicle fuel economy. It would also adversely affect driveability. As is the case with passenger cars, further tightening of the nationwide NOx standard is not needed, and the present standard has had, and will continue to have, a major effect in reducing ambient NOx.

- 0.5 gpm light truck hydrocarbon standard — As discussed above for passenger cars, the proposed tightening of the light truck hydrocarbon standard may not be technically feasible. California currently has a 0.5 gpm hydrocarbon standard for some light truck models, but these vehicles are subject to a useful life requirement that is less than half the 120,000-mile federal requirement.

- 5.0 gpm light truck CO standard — There is no need for a 50% reduction in the light truck CO standard because most areas of the country are already in attainment with the national air quality standard for CO, and those that are not are very close to attainment. Present standards, which require greater than 90% reductions from uncontrolled levels, will ensure further progress as new vehicles replace older vehicles in service.

- Redefinition of light-duty vehicles — The bill's redefinition of "light-duty vehicle" requires that all vehicles of 6,000 pounds or less (gross vehicle weight) meet emission requirements historically applicable only to passenger cars, and has the effect of compounding the stringency of standards imposed under this bill in the case of trucks in the 6,000-8,500 pound (gross vehicle weight) classification. This requirement is misguided and would result in the virtual elimination of compact trucks, vans, and utility vehicles, as they are currently known. Despite increased use for personal transportation, compact trucks, vans, and utility vehicles are designed primarily for functional purposes, such as load carrying and trailer towing. Therefore, these vehicles must be designed with lower gearing and considerably different emission calibrations, which result in higher emission levels than for passenger cars. If compact trucks, vans, and utility vehicles are required to meet passenger car emission standards, manufacturers would not be able to offer these products with present functional capabilities. The result would be a product that would only look like, not function like, a truck — a product that would have little customer appeal.

3. Heavy-Duty Vehicle Standards

- The bill's 4.0 g/bhp-hr NOx standard (applicable beginning in model year 1991) ignores the well-established trade-offs inherent in heavy-duty engine technology. For heavy-duty diesel engines, the NOx reduction to 4.0 grams in 1991 could jeopardize manufacturers' ability to meet simultaneously a particulate level of 0.25 grams without using unproven and potentially unsafe trap technology.

- The NOx requirement of 1.7 g/bhp-hr (applicable beginning in model year 1995), representing an 85% reduction from the current standard, seriously endangers the commercial viability of both gasoline-powered and diesel-powered heavy-duty trucks. For gasoline engines, three-way catalysts are the only known technology capable of controlling engines to these levels. But such catalysts cannot survive the high operating temperatures characteristic of heavy-duty trucks. For heavy-duty diesel engines, the coupling of a 1.7 g/bhp-hr NOx standard with the 0.1 particulate level required by the bill produces a compliance requirement that no known technology can meet.

- EPA NOx and particulate standards, which are to take effect between 1988 and 1994 as required by law, represent the limits of present and anticipated technology.

4. Onboard Hydrocarbon Controls

Controlling hydrocarbon emissions from refueling will produce little real improvement in air quality. Accordingly, vapor recovery controls on motor vehicles, as well as Stage II service station controls, are redundant and wasteful. Resolution of the refueling vapor issue is best left to EPA, which has authority to address this issue and is conducting a proceeding to decide whether to adopt regulations.

II. Section 302 — Assurance of In-Use Compliance

A. Summary of Key Provisions

1. Useful Life

The bill requires EPA to double the useful life period for the purpose of emission standard compliance for light-duty vehicles from the current 5 years or 50,000 miles (whichever first occurs) to 10 years or 100,000 miles (whichever first occurs). The new useful life period will take effect with respect to light-duty vehicles manufactured during or after model year 1990.

2. Prohibition on Averaging To Achieve Compliance

The bill specifies that each motor vehicle emission standard must be met by "each and every" vehicle or engine sold or imported, and "may not be met or complied with by the average of the performance of various vehicles, engines, engine families, or models manufactured by the same manufacturer."

3. Testing

- The bill requires EPA, within 1 year after enactment, to add an idle test mode to the Federal Test Procedure (FTP) for light-duty vehicles, to be used for certification of light-duty vehicles and engines manufactured during or after model year 1990.
- [Cold Start CO Problem — This provision has not yet been inserted in the bill.]

4. "Pass Rate" for Certificates of Conformity

The bill requires EPA to suspend or revoke a vehicle or engine manufacturer's certificate of conformity with the vehicle emission standards if fewer than 90% of the new vehicles or engines tested in any sample or sampling period conform with the standards.

5. Determination of Nonconformity

- The bill amends the current trigger for an EPA determination of nonconformity with emission standards. Currently, the Clean Air Act directs EPA to notify the manufacturer of nonconformity -- thus triggering a recall decision -- if the Agency determines that "a substantial number of any class or category of vehicles or engines, although properly maintained and used, do not conform" to the standards. The bill would delete the word "properly" and substitute the word "normally." Thus, improper maintenance or use of the vehicle or engine would not excuse nonconformity as long as such maintenance or use was "normal." The bill defines "normally maintained and used" as "the maintenance and use ordinarily to be expected in the hands of the ultimate purchasers, not necessarily in accordance with instructions [furnished by the manufacturer] . . .. but not including intentional misfueling or intentional violations" of prohibitions against tampering with emission control equipment.
- The bill allows any state in which an I & M program is operating to petition EPA to make a nonconformity, or recall, determination on the basis of information collected in the I & M program. EPA must act on the petition within 60 days.

6. Tampering

The bill broadens the existing anti-tampering provisions to prohibit the manufacture or sale of any part or component designed to defeat a motor vehicle emission control device. The bill continues the current provisions in the Clean Air Act barring businesses from removing or rendering inoperative any emission control device.

B. Comments on Section 302

1. Useful Life

The proposed doubling of the current 5 year/50,000 mile useful life requirement effectively doubles the stringency of light-duty vehicle emission standards. In order to be certain of in-use compliance at 10 years or 100,000 miles, a manufacturer would have to certify at significantly lower levels to take into account expected deterioration of catalysts and other emission control components. Taken alone, the proposed 10 year/100,000 mile requirement represents a significant task; in combination with the bill's requirements for tightened emission standards, the task becomes virtually impossible.

2. Prohibition on Averaging To Achieve Compliance

The bill's prohibition on averaging fails to reflect the realities of mass production, in which vehicles in a specific engine family have varying emission results. Therefore, to achieve the "each and every vehicle" compliance requirement, manufacturers will be forced to implement tighter, more expensive production tolerances or a lower emission average, or both, so that the vehicle with the highest emissions will still meet the standards. Carried to its logical conclusion, the bill would require certification or full Federal Test Procedure (FTP) emission testing of each and every vehicle — a radical departure from the current engine-family certification scheme.

3. Testing

Idle tests, as currently conducted in state I & M programs, fail to correlate numerically with the Federal Test Procedure (FTP) and therefore are not reliable predictors of FTP emission values. A new I & M-type idle test as part of the FTP is not needed because an idle test fails to reflect in-use emission performance and consequently provides no useful engineering evaluation information.

4. "Pass Rate" for Certificates of Conformity

The 90% pass rate requirement would effectively tighten emission standards by about 30% for both light-duty and heavy-duty vehicles and engines. In combination with the bill's stricter standards and other in-use compliance requirements, the manufacturers' task becomes virtually impossible. Taken together, the provisions of Title III of the bill (e.g., the redefinition of light-duty vehicles) would have the effect of eventually eliminating some vehicle classifications as they currently exist.

5. Determination of Nonconformity

- The bill's provisions, in the aggregate, would eliminate the responsibility of the vehicle owner for "proper" maintenance to support in-use compliance of his vehicle's emission controls. Under current law, the owner must practice proper maintenance procedures if he is to be entitled to receive relief from the manufacturer in the event of failure. The bill's departure from the current requirement and its adoption of a "normal maintenance" requirement would encourage a lack of attention to necessary maintenance.

- Maintenance-free engines and control systems are impossible. Manufacturers must be able to set reliable design requirements based on recommended maintenance practices. The bill would defeat this critical objective.

- The bill's reduction of the vehicle owner's maintenance responsibility, combined with its doubling of the vehicle manufacturer's responsibility for emission control performance by extending the useful life to 10 years or 100,000 miles, together with pre-sale testing and certification requirements, make certain that the manufacturer would have to retain strict control over the vehicle for its full useful life to protect against liability for repairs and parts replacements. The manufacturer also would have to consider options such as increasing the durability of emission-related components and normal service parts and limiting in-use maintenance to its franchised dealer network. These in-use durability requirements would be anti-consumer, adding substantially to the price of a new car and possibly restricting the consumer's choice of competitive parts and service. Thus, the bill also represents an anti-competitive threat to the independent motor vehicle aftermarket, from parts manufacturers to distributors, jobbers, and service garages, many of which could be forced out of business.

- I & M tests do not correlate with the Federal Test Procedure. Thus, the bill's provisions authorizing states to petition for nonconformity (i.e., recall) determinations based on findings of I & M programs would only lead to increased litigation, more complex state quality control procedures, and increased program costs.

6. Tampering

Broadening the anti-tampering provisions to prohibit the manufacture or sale of any part or component designed to defeat emission control devices is reasonable and appropriate. However, it is disturbing that the literal language of the bill (and, in fact, of the existing Clean Air Act) could be construed to bar a mechanic from temporarily removing an emission-related part for cleaning or repair.

III. Section 303 — Regulation of Fuels

A. Summary of Key Provisions

1. Sulfur in Diesel Fuel

The bill prohibits the sale, after July 1, 1990, of motor vehicle diesel fuel with a sulfur content greater than 0.05% by weight.

2. Gasoline Volatility Requirements

- The bill requires EPA, within 2 years after enactment, to adopt regulations requiring that the Reid vapor pressure (RVP) of gasoline sold during warm weather months shall not exceed 9.0 pounds per square inch (or, with respect to any ozone transport region, any lower level requested by the regional commission).

- These regulations "shall require the production and distribution of a base gasoline suitable for blending with additives or other fuels in a manner allowing compliance with" the RVP limit.

- The bill prohibits, after April 1, 1990, the sale or import of fuel that fails to comply with these regulations.

3. Testing of Fuel Additives and Lubricants

The bill prohibits, beginning 5 years after enactment, the sale of any fuel additive or lubricant unless EPA determines, after notice-and-comment rulemaking, that the additive or lubricant (and all reasonably anticipated byproducts) have undergone "thorough and complete health and environmental effects testing."

4. Oxygen Content in Gasoline

- The bill bans, after October 1, 1989, the sale of gasoline for use in motor vehicles in any CO nonattainment area during cold weather months (October through March) if the gasoline has an oxygen content of less than 2% by weight. Beginning October 1, 1990, the bill increases the minimum oxygen content requirement to 3.7% by weight.

° The bill allows EPA to waive the bill's requirements regarding oxygen content, the timing of availability of oxygenated gasoline, or the use of oxygenated fuels, in a specific area, in cases where full implementation "may reasonably be anticipated to result in an unacceptable increase in levels of other air pollutants."

5. Fuel and Fuel Additive Requirements

The bill directs EPA to adopt regulations prohibiting any person from introducing, or allowing the introduction of, a regulated fuel or fuel additive into a motor vehicle not designed for the fuel or fuel additive.

B. Comments on Section 303

1. Sulfur in Diesel Fuel

- Section 211 of the Clean Air Act currently provides EPA with authority to regulate fuels or fuel additives upon consideration of available medical, scientific, economic and cost/benefit data.
- The sulfur reduction issue is currently under active review within EPA.
- In light of this existing authority and the ongoing EPA review, there is no need for additional legislative action.

2. Gasoline Volatility

- Mandated reduction of commercial fuel volatility, such as that provided by the bill, carries with it implications for a number of industries and would have significant effects on energy policy. Thus, the issue deserves careful examination.
- The responsibility for establishing standards for gasoline volatility is best left with the American Society of Testing Methods (ASTM) and

EPA. Adoption of ASTM standards can provide a logical limit for gasoline volatility on a regional and seasonal basis that will ensure consumer satisfaction with vehicle performance.

- In any event, EPA currently is evaluating this issue and is expected to publish a proposed rule shortly. Therefore, no basis exists for legislatively mandating fuel volatility limits.

3. Oxygen Content in Gasoline

It is inappropriate to statutorily mandate use of particular fuels, as the bill's oxygen content provisions would do. Statutorily mandating such standards would introduce inefficiencies into the market, restrict consumer choices, and drive up fuel prices.

IV. Section 304 — Federal Hydrocarbon Emission Controls

A. Summary of Key Provisions

- The bill requires EPA, within 2 years after enactment, to adopt regulations establishing emission limitations, standards of performance, or standards for product composition or application for hydrocarbon emissions associated with each of 6 source categories:

  - commercial solvents;
  - consumer solvents;
  - architectural coatings;
  - pesticide application;
  - traffic marking coatings; and
  - metal parts coatings in military specification applications and aerospace industry applications.

  In developing regulations for commercial solvents and for metal parts coatings in military specification applications and aerospace industry applications, EPA must consult with the affected industry (as well as with DOD, FAA, and NASA).

- For "existing sources or activities not subject to section 111 or section 173" of the Clean Air Act, the federal hydrocarbon emission control regulations must require, at a minimum, the degree of emission reduction or control achievable through RACT (as defined in Title I of the bill).

- The bill provides that the federal hydrocarbon emission control regulations shall be deemed to be requirements of a state's Clean Air Act implementation plan.

B. Comments on Section 304

- Under the existing Clean Air Act, EPA has the authority to adopt emission limitations, standards of performance, or other regulations governing these and other source categories. To the extent that standards should be adopted for any source category, that determination is best made by EPA using the best scientific evidence available and only after public input. No justification exists for Congress to mandate that EPA adopt regulations for these specific categories.

- The bill unreasonably fails to require consultation between EPA and affected industries for 4 of 6 source categories. Full consultation is necessary before any requirements are imposed on any source category.

- Section 304 fails to allow consideration of costs, energy effects, or other balancing factors in developing federal control requirements for these source categories. Such balancing is a key element of the Section 111 Clean Air Act program for new source performance standards. Omission of this balancing element from this provision of the bill is likely to result in rigid and unduly burdensome emission control requirements.

- The bill fails to include the proposed federal hydrocarbon emission control standards among the EPA actions subject to the procedural safeguards of Section 307(d) of the Clean Air Act, which governs rulemaking and judicial review under the Act. No reason exists for denying these protections to parties with an interest in the conduct and outcome of EPA proceedings in this area.

V. Section 305 — Federal Enforcement

A. Summary of Key Provisions

- The bill increases criminal penalties for various Clean Air Act violations. Currently, a knowing violation of a requirement of a SIP, a new source performance standard, a national emission standard for hazardous air pollutants, or other specified requirements of Title I of the Clean Air Act is punishable by a fine of up to $25,000 per day of violation or up to 1 year in prison, or both (or up to $50,000 per day or up to 2 years in prison, or both, for a second or subsequent violation). The bill changes these penalties to a fine of not less than $5,000 nor more than $50,000 per day or up to 3 years in prison, or both (or up to $100,000 per day or up to 6 years in prison, or both, for a second or subsequent violation).

- Currently, the Clean Air Act provides that knowing falsification of reports or other documents filed or required to be maintained under the Act or knowing falsification of or tampering with monitoring devices required to be maintained under the Act is punishable by a fine of up to $10,000 or up to 6 months in prison, or both. The bill increases these penalties to as much as $25,000 per day or up to 2 years in prison, or both.

B. Comments on Section 305

Penalties of this magnitude should be reviewed by the Judiciary Committees of Congress before they are enacted into law.

TITLE IV — AMBIENT AIR QUALITY STANDARDS

I. Summary of Key Provisions

- Within 1 year after enactment, the EPA Administrator must revise air quality criteria "as may be necessary to promulgate ambient air quality standards as required" by the bill (see below).

- The Administrator must adopt within 1 year after enactment:

  - an additional primary national ambient air quality standard (NAAQS) for sulfur dioxide, based on concentrations over a period of not more than 1 hour (the Administrator may "postpone" adoption of this standard if he determines that implementation of Title II of the bill (the acid deposition control provisions) "will provide at least an equal degree of emission reduction and of protection of the public health, at as early a date, as the implementation" of the new standard); and

  - a secondary NAAQS for fine particles that "is adequate to protect visibility."

- The Administrator must adopt, within 2 years after enactment, an additional primary NAAQS for carbon monoxide that "is applicable to high altitude areas."

- The Administrator must adopt, within 3 years after enactment, an additional primary NAAQS for ozone that:

  - is based on concentrations over a period of not less than 8 hours; and

  - "taking into account subchronic human health effects, . . . is more protective of public health and more stringent in effect than" the existing ozone standard.

- The Administrator must adopt, within 4 years after enactment, an additional primary NAAQS for nitrogen dioxide, based on concentrations over a period of not more than 1 hour.

- The Administrator must adopt, within 5 years after enactment, a primary NAAQS for acid aerosols (in addition to any NAAQS for particulate matter).

II. Comments on Title IV

- The bill would substitute political directives, based on environmental groups' political objectives, in place of the Administrator's expert scientific judgment on whether new or revised air quality standards are needed. Nothing in the current Clean Air Act ties the Administrator's hands by mandating promulgation of specified types of air quality standards in this fashion.

- Certain environmental groups have long sought to have EPA adopt many of the air quality standards mandated by the bill. Because the scientific justification for these standards is lacking, EPA has declined to adopt them. The bill thus represents an attempted political reversal of expert decisionmaking based on scientific investigation.

- The bill further subverts the scientific basis of the Clean Air Act emission control program by requiring the air quality criteria documents to be altered to suit congressionally mandated air quality standards. This puts the cart before the horse, since the criteria documents are supposed to form the scientific foundation for the standards. The bill thus makes a mockery of the expertise and work of EPA's scientists over many years.

- The scientific basis for the standards mandated by the bill simply does not exist. For example, there is no public health need for a 1-hour sulfur dioxide standard. Extensive scientific and technical analyses support retention of the 24-hour and annual primary standards and the 3-hour secondary standard, but do not establish that an additional, 1-hour standard is needed or appropriate.

- Adoption of these unwarranted air quality standards would artificially create more nonattainment areas and ultimately impose still greater costs and constraints on consumers and business activity.

- In any event, many of the bill's deadlines (especially the 1-year deadlines) for altering the criteria documents and for adopting air quality standards are unrealistic and unreasonable; in many cases, these deadlines will prevent serious consideration of the facts by EPA and meaningful public participation in EPA's proceedings. EPA and its scientific advisors simply cannot do a responsible job under such politically motivated time constraints. Legislative fiat based on political considerations should not be substituted for reasoned scientific judgment.

TITLE V — HAZARDOUS AND TOXIC AIR POLLUTANTS

I. Regulation of "Hazardous Air Pollutants" (Proposed § 112(c) of the Clean Air Act)

A. Summary of Key Provisions

1. Definition of "Hazardous Air Pollutant"

- The bill would reverse existing law by allowing criteria pollutants to be listed and regulated as hazardous air pollutants.

- The bill includes within the definition of "hazardous air pollutant" any air pollutant that, in the Administrator's judgment, is "acutely or chronically toxic, whether individually or by reason of cumulative or synergistic effects." The bill also includes within the definition any air pollutant that, in the Administrator's judgment, causes or contributes to air pollution that may reasonably be anticipated to result in "adverse effects to the environment" (except "air pollutants the environmental effects of which are subject to mitigation pursuant to" the bill's acid deposition control provisions, "or other air pollutants for which the Congress explicitly establishes a control program in lieu of" Section 112).

2. List of Hazardous Air Pollutants

- The bill deletes the provision in the existing Section 112 that the Administrator list "each hazardous air pollutant for which he intends to establish an emission standard" under Section 112. The bill substitutes language requiring the Administrator to list "each hazardous air pollutant for which the Administrator shall establish an emission standard" under Section 112. In addition, the list must identify "the categories of sources which emit each such pollutant in more than de minimis amounts" — a requirement not contained in current law.

- The bill requires the Administrator to list as hazardous air pollutants 19 specified substances, including the substances that the Administrator has already listed or for which he has issued "notices of intent to list," and one substance (acrylonitrile) with regard to which EPA has decided to defer to state regulatory decisions. (Many of these substances are the subject of pending litigation, in which environmentalists seek a court order to compel the Administrator to list and regulate the substances under Section 112.)

- The bill requires the Administrator to list a substance, regardless of "whether or not the Administrator has information with respect to such air pollutant sufficient to establish a specific emission standard," whenever evidence indicates that:

    - the most exposed persons may be exposed to ambient concentrations that may exceed the threshold for adverse health effects;

    - the most exposed persons may be exposed to ambient concentrations that may present more than a negligible health risk (for nonthreshold pollutants); or

    - significant adverse environmental effects are likely to occur as a result of ambient concentrations, deposition, or bioaccumulation.

- The bill requires the Administrator to follow specified procedures and timetables in assessing whether substances meet the criteria for listing as hazardous air pollutants. The Administrator must make a decision that a substance "is" or "is not" a hazardous air pollutant, or that "there is insufficient information to determine whether the [substance] . . . is a hazardous air pollutant."

- The bill requires the Administrator to assess the health and environmental effects of individual substances or classes of substances.

- With regard to a substance for which the Administrator finds, after an initial assessment, that "there is insufficient information" to allow him to determine whether the substance is a hazardous air pollutant, the bill authorizes the Administrator to establish a research program, and to require the owners and operators of facilities emitting the substance to "conduct the necessary research," in order to permit a final determination whether the substance is a hazardous air pollutant. The bill specifies that "such owners and operators shall be liable to the United States for the costs of such research."

- The bill authorizes public petitions to the Administrator to request him to assess a substance to determine whether it meets the criteria for listing as a hazardous air pollutant. The bill requires the Administrator to grant or deny a petition within 180 days after he receives it.

3. Emission Standards for Hazardous Air Pollutants

- The bill requires the Administrator to promulgate an emission standard or standards within 36 months after listing and requires the Administrator to publish a proposed standard at least 180 days before promulgation.

- The bill requires the Administrator to promulgate an emission standard or standards for all categories of sources of a listed hazardous air pollutant that emit the pollutant in more than de minimis amounts (unless he finds, based on information in the rulemaking docket, that the pollutant clearly is not a hazardous air pollutant).

- The bill requires the Administrator to set any emission standard or standards "at a level at which no known or anticipated adverse effect on the health of persons occurs including an ample margin of safety unless a more stringent standard is required to protect the environment." The bill explicitly forbids the Administrator from considering costs or economic or energy factors or technological feasibility in establishing any emission standard.

4. Compliance with Emission Standards

The bill modifies the current requirement that an existing source comply with an emission standard within 90 days after its effective date (subject to a possible waiver for up to 2 years). The bill requires the Administrator (or a state with delegated authority) to establish a compliance date for each category of existing sources. The date is to be established after notice and opportunity for public comment, and must be within 2 years after the effective date of the standard. For nonthreshold pollutants, the Administrator (or a state with delegated authority) may extend the compliance date for an individual existing source or category of existing sources for up to 10 years from the effective date of the standard, if the Administrator (or state) (1) determines that the source or sources "would experience extraordinary economic hardship," and (2) requires the source or category of sources to comply with an alternative emission limitation based on BACT that ensures that the maximum exposed persons will not be exposed to ambient concentrations resulting from the source's emissions "at levels which present more than a negligible risk of adverse health effects."

B. Comments on "Hazardous Air Pollutant" Provisions

1. The Title V Requirements Represent a Radical Departure from the Existing Clean Air Act Program

The provisions addressing "hazardous air pollutants," together with the "toxic air pollutant" and "extremely hazardous air pollutant" provisions discussed below, represent a radical departure from the existing regulatory philosophy underlying the Clean Air Act since its enactment nearly two decades ago. The established objective of regulation of hazardous air pollutants under Section 112 of the Act is to reduce risks to human health in a rational manner, taking into account the

technological feasibility and economic costs of control. While protection of public health is the overriding goal, Congress has clearly recognized that it is irrational and counterproductive to attempt to eliminate all health risks posed by any amount of a substance in the ambient air.

But this bill attempts to do just that. Its apparent objective — an utterly unattainable objective — is a world from which risk, no matter how minuscule, is banished. In attempting to impose this risk-free regime, the bill would create massive social and economic dislocations. Large and small manufacturing plants would be forced to close or drastically curtail operations. Jobs would be lost, and costs to business and consumers would increase sharply. The competitive position of the United States in world markets would worsen substantially. And, ironically, public health would be placed at risk due to the decline in the quality of life caused by the bill's adverse social and economic consequences.

2. The Definition of "Hazardous Air Pollutant" Is Overly Broad

The definition of "hazardous air pollutant" in the bill is objectionable in five major respects.

- First, it dramatically expands the health-based definition of "hazardous air pollutant" currently contained in Section 112, so as to include any air pollutant that in the Administrator's judgment contributes to air pollution that may be "acutely or chronically toxic, whether individually or by reason of cumulative or synergistic effects . . . ." The number of substances that are "acutely or chronically toxic" in some way, at some level of exposure, is likely to be enormous. Greater care should be given to the consequences of such a sweeping expansion of the hazardous air pollutant program.

- Second, the bill expands the definition of "hazardous air pollutant" to include pollutants that may result in adverse effects to the environment, even if those effects do not adversely affect human health. In light of the very stringent regulatory regime that the bill imposes on hazardous air pollutants, the inclusion of such environmental effects as a basis for listing is unjustified. Moreover, it will slow down the regulatory process.

- Third, the bill authorizes the assessment of classes of substances. Although chemicals within a class may be structurally similar, they may not be at all similar in terms of use or potential for adverse effects to health or the environment. Thus, the bill could easily lead to unnecessary and inappropriate regulation.

- Fourth, under the bill, a chemical could be listed as a hazardous air pollutant even though it is already regulated as a criteria pollutant under Section 109 of the Clean Air Act. Given the comprehensive regulatory program applicable to criteria pollutants under Section 109, this feature of Title V is inconsistent both with the established statutory scheme and with common sense.

- Fifth, under the bill, there is an overlap in coverage, so that the same chemical might be regulated as a hazardous air pollutant and a toxic air pollutant and an extremely hazardous air pollutant. This overlap in coverage is confusing and would result in overlapping, duplicative, and unnecessary regulation.

3. Congress Should Not Require EPA To List Specific Substances

The bill designates 19 substances as hazardous air pollutants, 8 of which already have been listed as hazardous air pollutants by EPA. Congress should not take it upon itself to list specific substances as hazardous air pollutants. Instead, Congress should establish reasonable criteria for EPA to apply in making listing determinations.

4. The Bill Fails To Provide Minimum Criteria that Must Be Met Before a Substance Is Added to the "Assessment" List

Under the bill, any person may petition to have any substance added to the list of substances that are subject to EPA assessment for possible listing. The petitioner is not required to show any minimal adverse effect of the substance. The bill contains no explanation of how the Administrator is to evaluate these petitions or on what basis they can be denied. This omission could lead to a flooding of the administrative system to the point that EPA could not possibly carry out all the requirements within the timeframes imposed by the bill.

5. The Bill's Requirement that EPA Regulate All Sources Is Irrational

The bill appears to require the establishment of standards for all sources of a hazardous air pollutant that were identified by EPA as being non-de minimis emission sources at the time the pollutant was listed as a hazardous air pollutant. EPA should be given the flexibility to adopt emission standards applicable to some, but not all, of the sources that it preliminarily identified at the time the pollutant was listed. Otherwise, EPA, in promulgating the final rule, would be compelled to ignore more comprehensive and up-to-date information regarding emission sources that may be developed during the course of the administrative proceeding.

6. "Negligible Risk" and "De Minimis" Criteria Are Unwarranted

In several places, the bill uses the term "negligible risk." Use of this term rather than the term "significant risk" is unwarranted, since the concept of "significant risk" has been employed more broadly by both agencies and courts and is better understood by regulators and the regulated community. Likewise, there is no justification for requiring regulation of all non-de minimis source categories; EPA should continue to have discretion to regulate only significant source categories.

7. The Basis for Establishing Standards for Hazardous Air Pollutants Is Unduly Stringent and Could Force Many Facilities To Close

The bill requires that emission standards for hazardous air pollutants be set "at a level at which no known or anticipated adverse effect on the health of persons occurs including an ample margin of safety unless a more stringent standard is required to protect the environment." The bill goes on to preclude any consideration of "costs, economic, energy or other factors or technological feasibility" in determining the appropriate level for a hazardous air pollutant emission standard. This approach is objectionable for several reasons.

- First, it reflects the exceedingly stringent (arguably, zero-risk) health-based approach to setting Maximum Contaminant Level Goals ("MCLGs") that Congress has adopted under the Safe Drinking Water Act. However, under the Safe Drinking Water Qct, this health-based criterion is a goal, not an enforceable standard. Section 112 standards for hazardous air pollutants, by contrast, are enforceable standards.

- Second, the bill improperly elevates effects on the environment to the same status as impact on human health.

- Third, the bill contemplates the setting of standards that are technologically and economically unachievable or infeasible — regardless of the consequences.

- New or modified sources will be required to meet these exceedingly stringent standards immediately, even if it is not possible to do so. This could put a halt to new construction or modification of facilities that might emit a hazardous air pollutant. Even existing sources would have to meet what could be an impossible standard within 2 years. Although existing sources theoretically could have 10 years to comply if a nonthreshold pollutant were involved, such an exemption would be conditioned upon (1) a showing of extraordinary economic hardship, (2) the application of exceedingly stringent BACT controls, and (3) assurance that the resulting risk to the most exposed person will be "negligible." This is likely to be an extraordinarily difficult test to meet. Even if this test could somehow be met, the source probably would have to close within 10 years or whatever lesser period of time is allowed in the particular case.

8. Sweeping "Research" Authority Is Not Needed

The bill directs EPA to establish research programs, and to require source owners and operators to conduct research, to collect toxicological data and related information when it finds that the available information is insufficient to determine whether a substance is a hazardous air pollutant. In addition, more general research authority is contained elsewhere in the bill. But Congress already has adequately provided for programs of toxicological research under Section 4 of the Toxic Substances Control Act, Section 110 of the Superfund Amendments and Reauthorization Act (SARA), and the Federal Insecticide, Fungicide, and Rodenticide Act. Thus, this sweeping new "research" authority is unnecessary.

II. Regulation of "Toxic Air Pollutants" (Proposed § 112(d) of the Clean Air Act)

A. Summary of Key Provisions

1. List of Toxic Air Pollutants

The bill establishes a list of toxic air pollutants that includes, but is not limited to, each chemical or substance subject to Section 313 of SARA that is emitted into the air in measurable amounts. The list shall not include any substance for which the Administrator has established a hazardous air pollutant emission standard. The Administrator must review and revise the list at least every 3 years. Upon petition, the Administrator must (within 180 days) decide whether to add a substance to the list; a substance must be added "upon a showing that the substance is known to cause or may reasonably be anticipated to cause adverse effects on human health or the environment and . . . is emitted into the air in more than de minimis amounts."

2. "Delisting"

The bill allows the Administrator to "delist" a toxic air pollutant under stringent conditions. Delisting is allowed if "complete, valid and adequate data on the health and environmental effects" of the substance show that it "will not cause any adverse effect" on health or the environment. Delisted "threshold" pollutants remain subject to "area source" requirements (see below), and for these supposedly delisted pollutants the Administrator must establish an emission limitation that "is adequate to protect human health and the environment with an adequate margin of safety" and that applies to all "major" sources (i.e., sources that emit or could emit at least 10 tons of listed toxic air pollutants per year). Moreover, even threshold pollutants cannot be "delisted" unless the health or environmental effects threshold is "substantially above" the emission level that would result from use of BACT and compliance with a BACT-based standard would "impose extraordinary economic costs" on major sources.

3. Standards for "Major" Sources and Definition of "Best Available Control Technology" (BACT)

- The bill requires the Administrator to adopt an emission standard or standards for categories of toxic air pollutants that will achieve emission reductions at least equivalent to that which would be achieved if the source used BACT. The bill directs the Administrator to review and revise the emission standards at least every 5 years. EPA must adopt standards for all "major" sources of toxic air pollutants (including, but not limited to, synthetic organic chemical manufacturing plants; petroleum refineries; treatment, storage, and disposal facilities for hazardous and solid waste; publicly owned treatment works; industrial wastewater treatment facilities; and facilities burning used oil).

- The bill defines "major source" as "any stationary source (including all emission points and units of such source located within a contiguous area and under common control) of air pollutants which emits, or has the potential to emit," at least 10 tons per year "of any air pollutant or combination of air pollutants" on the list of toxic air pollutants.

- In defining "best available control technology" (BACT) for purposes of Section 112, the bill does not authorize the Administrator (or a state to which EPA has delegated Section 112 implementing authority) to consider energy, environmental, and economic impacts and other costs.

4. Compliance with Standards

The bill bars construction of any new major source and modification of any existing major source if the constructed or modified source would violate any toxic air pollutant standard. The bill directs the Administrator to require compliance with toxic air pollutant standards for each category of existing sources within 3 years after the effective date of the standard. The Administrator may grant a 2-year compliance waiver if necessary for the installation of controls and if steps will be taken during the waiver period to protect health from "imminent endangerment."

5. BACT Criteria

The bill provides that application of BACT under toxic air pollutant standards for major sources may not result in emissions for any source that exceed the emissions allowed by any applicable standard under Section 111 (including new source performance standards), Part C (including BACT requirements), Part D (including lowest achievable emission rates (LAER) and reasonably available control technology (RACT) requirements), or any state permit that is applicable to emissions from a particular source.

6. "Area Source" Requirements

The bill requires the Administrator to list categories of "area sources" (i.e., non-major sources) of toxic air pollutants (e.g., degreasing and solvent cleaning operations, pesticide applications, wood combustors, other small combustion units, gasoline marketing, mobile sources, and materials transportation). The bill establishes an objective of reducing emissions from these sources by 55% from 1988 levels within 10 years after enactment. The bill authorizes the Administrator to establish emission standards and other requirements for area source emissions.

B. Comments on "Toxic Air Pollutant" Provisions

1. The Bill's Approach to the Listing and Delisting of Toxic Air Pollutants is Unreasonable

- **The bill automatically lists as a toxic air pollutant any chemical or substance subject to the requirements of Section 313 of SARA that is emitted into the air in measurable amounts. The Section 313 list includes more than 300 chemicals, the health effects of which have not, for the most part, been evaluated either by Congress or by EPA.**

These chemicals should not automatically be subjected to stringent regulation as toxic air pollutants under Section 112.

- The relative difficulty of delisting, compared to listing, chemicals is unreasonable. Under the bill, any person may petition the Administrator to include additional substances on the list with a minimal showing that the substance may cause adverse effects on health or the environment. The Administrator is all but required to add such substances to the list. To delist a substance, on the other hand, would be virtually impossible. Moreover, even if a chemical is delisted, it will still be regulated, even beyond the level required to protect health and the environment. These requirements could easily overwhelm EPA's capacity to regulate in an effective and reasonable manner.

2. The Definition of "Best Available Control Technology" Is Improper

The bill defines BACT differently from the way that term currently is defined in Section 169(3) of the Clean Air Act. It is confusing to have two different definitions of the same term in the same statute. Furthermore, the definition of BACT in this bill is too strict. It does not provide a clear role for consideration of costs and other economic and energy impacts; and it could result in the imposition of an emission limitation that has never been achieved in practice by any source of a similar size, type, and class. As a practical matter, this could mean that emission limitations for hazardous or toxic air pollutants would be unachievable by most (and perhaps all) of the sources to which they apply. Plant shutdowns would be inevitable, disrupting the economy and eliminating thousands of jobs.

3. It Is Unreasonable To Require that Chemicals Be Regulated by Class or Category

Grouping chemicals together by chemical structure is an unreasonable basis for a regulatory scheme. Structurally similar substances may be used in very different ways, and the same control techniques may not apply to different substances within the class. Furthermore, chemicals within a class may not all pose similar risks to health or the environment. Thus, the bill could produce regulations much more stringent than necessary.

III. Regulation of "Extremely Hazardous Air Pollutants" (Proposed § 112(e) of the Clean Air Act)

A. Summary of Key Provisions

1. "General Duty"

The bill imposes on the owners and operators of facilities producing, processing, handling, or storing "extremely hazardous substances" (see below) a "general duty" to "design and maintain" their facilities in a way that prevents releases and minimizes the consequences of any accidental releases.

2. List of "Extremely Hazardous Air Pollutants Subject to Sudden Release"

The bill requires the Administrator to publish, within 30 days after enactment, a list of "extremely hazardous air pollutants subject to sudden release" ("extremely hazardous substances which may, as the result of sudden events, be released as air pollutants in concentrations that may reasonably be anticipated to cause acute toxic effects in humans"). The list, to be reviewed and revised by the Administrator at least every 5 years, is to be drawn from (but not limited to) the list of "extremely hazardous substances" under Section 302 of SARA.

3. Hazard Assessments for "Sudden Release" Substances

- The bill requires facility owners or operators to complete, within 18 months after enactment or 12 months after a substance is listed (whichever is later), a "hazard assessment" for each extremely hazardous air pollutant subject to sudden release present at the facility. The hazard assessment must describe the consequences of accidental releases (including worst-case scenarios) and must provide information to aid in preventing, mitigating, or responding to such releases. The bill lists categories of information that must be included in assessments (e.g., potential sources of releases from the facility, previous releases, exposure scenarios, and toxicity data). Each assessment must be updated every 2 years.

- Hazard assessments must be made available to the Administrator, an independent safety board established by the bill known as the Chemical Safety and Hazards Investigations Board (see below), the state in which the facility is located, the local emergency planning committee or other public safety agency, and the public (subject to trade secrecy and related conditions under Title III of SARA).

4. Chemical Safety and Hazards Investigations Board

The bill establishes a Chemical Safety and Hazards Investigations Board to investigate and issue public reports on chemical spills and other accidents involving the production, processing, handling, or storage of chemical substances, and to make recommendations to the Administrator on proposed rules and orders to prevent or mitigate the consequences of releases. The Administrator must respond to the Board's recommendations within 180 days. The Board may require chemical production, processing, handling, or storage facilities to provide reports and other information on any matter pertinent to chemical safety. Board officers in conducting investigations are authorized to enter facilities producing, processing, handling, or storing extremely hazardous substances.

5. Release Detection, Prevention, and Correction Requirements

The bill requires the Administrator to adopt release detection, prevention, and correction requirements applicable to any facility that manufactures, stores, or processes any extremely hazardous air pollutant listed as "subject to sudden release."

6. "Imminent and Substantial Endangerment"

The bill authorizes the Administrator to seek in federal district court any relief necessary to abate any imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of an extremely hazardous air pollutant. The bill also authorizes the Administrator to issue administrative orders to protect human health and welfare and the environment. Violations of any order issued under this authority are subject in district court enforcement actions to penalties of $25,000 per day.

7. "Extremely Hazardous Air Pollutants Subject to Nonsudden and Episodic Release"

- The bill requires the Administrator to publish, within 30 days after enactment, a list of "extremely hazardous air pollutants subject to nonsudden and episodic release" (i.e., "extremely hazardous substances which may, as a result of nonsudden or episodic events, be released as air pollutants in concentrations that may be reasonably anticipated to cause acute or chronic adverse health effects in humans"). The list, to be reviewed and revised by the Administrator at least every 5 years, is to be drawn from (but not limited to) the list of extremely hazardous substances under Section 302 of SARA.

- The bill requires the owner or operator of any facility or device from which a "nonsudden" or "episodic" release of an extremely hazardous air pollutant may occur to conduct each year an audit and safety inspection of the facility or device, in order to correct any leaks or other routine or episodic releases. Results of audits and inspections will be available to the Administrator, the state in which the facility or device is located, the local emergency planning committee or other public safety agency, and the public (subject to trade secrecy and related conditions under Title III of SARA).

- The bill requires the Administrator to promulgate leak prevention, detection, and correction regulations applicable to all devices and systems located at a facility that manufactures, stores, or processes any extremely hazardous substance listed as subject to nonsudden or episodic release. The regulations "shall be adequate to assure the protection of human health and the environment."

8. Penalties

The bill requires the Administrator to adopt regulations imposing penalties on facility owners or operators for the release (sudden or non-sudden) of extremely hazardous air pollutants. The penalty must be at least $5.00 per pound of the extremely hazardous air pollutant released to the air.

B. Comments on "Extremely Hazardous Air Pollutant" Provisions

1. The "General Duty" To Prevent Release of Extremely Hazardous Substances Could Create Undefined and Open-Ended Liability

The bill creates an undefined and open-ended "general duty" for owners and operators of facilities that produce, process, handle, or store extremely hazardous substances to take "such steps as are necessary to prevent releases and to minimize the consequence of accidental releases" of such substances. It is not clear what liabilities, if any, this undefined "general duty" may create. Congress should not casually insert in regulatory legislation language that could turn out to have very substantial, but unanticipated, adverse consequences.

2. The Hazard Assessment Requirement Is Seriously Flawed

The bill requires the preparation of hazard assessments for facilities at which there is present a compound that, as a result of sudden events, may be released in concentrations that could cause acute toxic effects in humans. This provision is unnecessary, since the information that would be required in a hazard assessment can be obtained pursuant to Sections 302 and 303 of SARA. In any event, the bill's specific requirements for hazard assessments may be misguided. For example, requiring that a description of "worst-case scenarios" and associated exposures be made available to the public could unnecessarily produce anxiety about an outcome that is extremely unlikely to occur. Finally, the time period allowed for preparation of hazard assessments is unrealistically short.

3. Establishment of Chemical Safety and Hazards Investigations Board Is Unwarranted

A Chemical Safety and Hazards Investigations Board should not be established at the present time. Before establishing such an entity, Congress should consider the extent of overlap with existing agencies such as OSHA, the Coast Guard, and the National Transportation Safety Board. In addition, the Board's powers duplicate the authority of state emergency response commissions and local emergency planning committees established under Title III of SARA. Furthermore, greater consideration should be given to the extremely broad powers that the bill would confer on the Board and to the proper extent of the Board's independence from Executive Branch control. Finally, there is a serious concern that the information gathering activities of the Board will result in widespread disclosure of trade secrets and other confidential information.

4. The Release Detection, Prevention, and Correction Requirements Would Unnecessarily Insinuate EPA into the Management of Chemical Plants, and in Any Event Is Premature

- The bill directs EPA to promulgate release detection, prevention, and correction requirements applicable to all devices and systems from which there may be a sudden release of an extremely hazardous air pollutant. This requirement could effectively give EPA the authority to tell facility owners and operators how to run their plants. Such a requirement is unnecessary and unjustified. For example, EPA has a limited understanding of chemical process engineering and should not be placed in the position of overseeing the operation of chemical plants. Furthermore, the imposition of such requirements could freeze the development of new technology and compromise competitiveness and safety in the chemical industry.

- In any event, the statutory imposition of release detection, prevention, and correction requirements is premature. Only last year, Congress enacted Section 305 of SARA, directing EPA to initiate "a review of emergency systems for monitoring, detecting, and preventing releases of extremely hazardous substances at representative domestic facilities that produce, use, or store extremely hazardous substances." Upon completing this review, EPA is to submit a report of its findings and recommendations. At a minimum, Congress should await the results of EPA's review and report before rushing to enact new statutory requirements in this area.

- Furthermore, these requirements would force EPA to duplicate the work of local emergency planning committees required under Title III of SARA to develop emergency response plans to address these matters. EPA has, in fact, already issued guidance on this planning process. Thus, the bill's requirements at best are redundant with existing programs and at worst will create serious confusion and impose conflicting requirements on the regulated community.

5. **Nonsudden and Episodic Releases of Extremely Hazardous Air Pollutants Need Not Be Regulated Independently of the Regulation of Hazardous Air Pollutants**

Nonsudden and episodic releases of extremely hazardous air pollutants essentially constitute the type of routine or regularly recurring releases that are more properly addressed under the provisions of the bill dealing with the regulation of hazardous air pollutants or toxic air pollutants. The definitions and listings of hazardous and toxic air pollutants are sufficiently broad to encompass any public health risk that may be associated with the nonsudden or episodic release of an extremely hazardous air pollutant. Congress should not establish additional and overlapping requirements by regulating these same releases under the extremely hazardous air pollutant provisions of the bill as well.

6. Audit and Safety Inspection Requirements Are Unnecessary

The bill's requirements for the conduct of annual audits and safety inspections at facilities from which there may be a non-sudden or episodic release of an extremely hazardous air pollutant are unnecessary. Most major chemical facilities already perform self-audits and safety inspections. In any event, any need for additional facility safety measures, if such a need exists, can be adequately addressed under Title III of SARA or existing Clean Air Act regulations.

7. The Imposition of Penalties for Any Release of an Extremely Hazardous Air Pollutant Is Unwarranted

The bill directs EPA to promulgate regulations establishing penalties for the release of extremely hazardous air pollutants. These penalties — which apparently would apply to unavoidable routine releases of listed pollutants, as well as to sudden, accidental releases — are inappropriate and unjustified. For one thing, they could apply to releases of the listed pollutants for which a permit has been obtained under the Clean Air Act. Moreover, penalties would apply even when the release does not result in ambient air concentrations above the health effects threshold for the substance. In short, the bill's penalty provision for releases of extremely hazardous air pollutants is entirely inappropriate and could force the shutdown of many facilities without producing any measurable public health benefit.

IV. Monitoring Requirements

A. Summary of Key Provisions

The bill gives the Administrator general authority to require the owner or operator of any facility that emits a hazardous or toxic air pollutant or that produces, processes, handles, or stores any extremely hazardous air pollutant to:

- monitor for the presence of such pollutant in the emissions (both point and fugitive) from the facility and in the ambient air "within the vicinity of the facility";
- install and maintain leak detection systems; and
- keep records and make reports on the results of monitoring and leak detection.

B. Comments on Monitoring Requirements

The monitoring requirements that EPA would be authorized to establish should be revised, so as not to include ambient air monitoring outside facility boundaries. Furthermore, facility owners and operators do not have the legal right to monitor on property that they do not own or occupy. Accordingly, if monitoring "within the vicinity of the facility" were to be required, facility owners and operators would have to be given easements in the property on which monitors are to be installed. The legal issues involved could be extremely complicated. For these reasons, owners and operators should not be required to conduct ambient air monitoring in the vicinity of their facilities.

CONSOLIDATED
NATURAL GAS
SERVICE COMPANY

CNG

1101 16th Street N.W.
Washington, DC 20036
(202) 833-3900

BEVERLY E. JONES
Vice President
Governmental Affairs

August 31, 1987

Chairman Quentin N. Burdick
Senate Committee on Environment
and Public Works
458 Dirksen Senate Office Building
Washington, D.C. 20510

Re: Clean Air Act Amendments

Dear Chairman Burdick:

Consolidated Natural Gas Company (CNG) operates one of the nation's largest fully integrated natural gas systems, and is actively involved in the development of technologies which facilitate emissions reductions through the use of natural gas. Thus, CNG is pleased to see that the Clean Air Act Amendments recently approved by the Environmental Protection Subcommittee would allow for natural gas technologies to be included among potential pollution control options.

We would like to comment very briefly, however, on several aspects of the Subcommittee bill. First, we are concerned that two provisions of that bill would create particular problems for CNG and others in the gas industry: the Section 402 requirement that the Environmental Protection Agency set a one-hour NO_2 standard, and the Section 102 definition of "reasonably available control technology." Our concerns regarding these unnecessary and burdensome changes to current law are generally shared by other interstate natural gas transmission companies, and the Interstate Natural Gas Association of America (INGAA), the trade association which represents them. INGAA has included an in-depth analysis of these two provisions in its written comments regarding the pending legislation. Here, we wish simply to urge you to carefully consider the points which INGAA has raised as you continue your review of the Subcommittee bill.

Furthermore, we urge that, as you continue to explore various "clean coal technolgies" and other approaches for reducing emissions, you keep in mind the numerous benefits of cofiring natural gas with coal. Burning relatively small amounts of natural gas with coal can result in both reduced emissions and improved efficiency. For example, in a recent demonstration project, co-firing 15 percent natural gas with 85 percent coal not only reduced SO_2 emissions by 15 percent but also reduced NO_x emissions by more than 50 percent. Cofiring, particularly when used in combination with other "clean coal" techniques, offers an economic means of maintaining the viability of burning high sulphur coal. CNG therefore urges that natural gas technologies be included among those which are favored as clean approaches to the burning of coal.

CNG appreciates the opportunity to comment on this important legislation.

Sincerely,

Beverly E. Jones.

ema Engine Manufacturers Association
One Illinois Center
111 East Wacker Drive
Chicago, Illinois 60601
312/644-6610

July 28, 1987

The Honorable George J. Mitchell
Chairman
Subcommittee on Environmental Protection
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

On behalf of the Engine Manufacturers Association, I respectfully request that the following comments regarding the Clean Air Standards Attainment Act of 1987 be included in the Subcommittee hearing record.

Sincerely,

Rita L. Castle

Rita L. Castle
Chairman
Legislative Committee

RLC/cd
7209rlc2

Enclosure

ema Engine Manufacturers Association
One Illinois Center
111 East Wacker Drive
Chicago, Illinois 60601
312/644-6610

July 27, 1987

The following comments regarding "Clean Air Standards Attainment Act of 1987" are presented by The Engine Manufacturers Association (EMA). Members of the Engine Manufacturers Association include all major manufacturers of heavy-duty diesel truck engines.

Alternate Fuels:

The pending legislation amends Section 172 of the Clean Air Act to require States to develop a timetable for the use of alternative fuels for all centrally fueled fleets of 50 or more motor vehicles operating in nonattainment areas. This timetable would result in attaining national primary ambient air quality standards not later than December 31, 1992.

Engine manufacturers support the development of alternative fuels as a viable strategy for reducing emissions from heavy-duty engines. Pilot programs using a variety of heavy-duty engines are currently underway in this country and Canada. The results of these and other studies will determine the impact of alternative fuels on engine durability, fuel economy, consumer costs, and the ability to control nonregulated pollutants such as aldehydes over the life of the vehicles. Commercial availability and cost of alternative fuels also remain to be fully developed. Moreover, once these issues have been successfully addressed, a four/five year lead time is generally required to bring the technology to production.

While recognizing the long-range potential of alternative fuels, the Engine Manufacturers believe it is premature to mandate use of alternative fuels by a date certain until such issues have been fully addressed.

Emission Standards:

The legislation also accelerates the compliance timetable and reduces the emissions levels significantly for oxides of nitrogen (NOx). In 1991, NOx emissions would be reduced from their current mandated level of 5.0 grams/Bhp-hr to 4.0 grams/Bhp-hr with a further reduction to 1.7 grams in 1995. The bill also statutorily mandates a particulate level for 1991 of 0.1 grams/Bhp-hr for buses, with heavy-duty truck engines required to meet the standard by 1994.

The Engine Manufacturers Association believes the statutory requirements for heavy-duty mobile sources should not be modified as proposed in S.

1351. Including these specific standards in the Act ignores the trade-offs inherent in engine technology and the simultaneous reduction of different pollutants. The Clean Air Act enables the EPA to set heavy-duty emission standards considering technological feasibility and availability, as well as fuel economy and economic impact. This approach to standard-setting makes possible a balance between the technology-forcing goals of the Act and the practical aspects of developing a commercial power system.

The interrelationship of pollutant controls is a key element in developing a compliance timetable and strategy. A reduction in NOx levels will increase the difficulty of controlling particulates. The reduction in 1991 NOx emissions from the EPA-mandated level of 5.0 grams to 4.0 grams could jeopardize manufacturers' ability to meet the 1991 particulate levels without using unproven and potentially unsafe trap technology. And reducing the NOx level in 1995 to 1.7 grams/Bhp-hr, coupled with the 0.1 gram particulate requirement, produces a standard for which no known compliance technology exists.

Therefore, the Engine Manufacturers Association believes specific standards should not be included in the Clean Air Act, but rather set by the EPA through the rule-making process.

Assurance of In-Use Compliance:

The clean air act amendments mandate several new restrictions on heavy-duty diesel engines. Averaging of emissions from mobile sources would be prohibited. While the benefits of averaging vary depending on the manufacturers' mix of engines, it is a useful compliance tool providing flexibility in the production of engines which would not otherwise be available. The EPA averaging program is narrowly drawn and as such does not adversely impact on ambient air quality. EPA should be permitted to retain the flexibility of this emission compliance tool in its regulatory arsenal.

The useful life definition is changed from the current 5 years-50,000 miles to 10 years-100,000 miles. This will require that all engines meet the standard, regardless of their actual full useful life or Congress' previous intent for emission compliance to be on a half-life basis.

In promulgating the 1985 model-year heavy duty emission standards, EPA determined the average full useful life for four subclasses of heavy-duty engines by carefully weighing industry, independent and academic survey data. The increase in useful life would extend manufacturers' liability for low-annual-mileage vehicles beyond the periods EPA deemed necessary and proper. This change would also raise serious practical problems for warranty and recall purposes. For these reasons, the current definition of "useful life" should not be changed from that already promulgated by the EPA.

Another in-use compliance proposal contained in the Senate proposal would change in the acceptable quality level (AQL) from the current 40 percent to 10 percent. This provision moves away from the concept that the average engine must pass to one requiring that essentially all engines must pass. The result is a dramatic reduction of up to 30 percent in the production target level used by manufacturers to assure that engines would pass production-line testing and meet the standard for their useful life. Such reductions in the emission targets are far beyond the foreseeable technological capability of the engine manufacturers.

Another provision relating to end-use compliance is the use of Inspection and Maintenance (I&M) data to determine engine emissions nonconformity. In addition, any state could petition the EPA to determine nonconformity, with the EPA required to respond within 60 days.

The Engine Manufacturers Association questions the use of I&M data as the basis for determining nonconformance. Such data is not subjected to any rigorous quality control checks, and is not suitable as a basis for recall decisions. I&M testing varies greatly from state to state and is not comparable to or correlated with the Federal Test Procedure used to determine conformance with emission levels and engine certification. The I&M procedures fail to distinguish if the vehicle has been properly maintained and serviced. As an audit to determine if tampering has occurred with the emission system, the I&M test is acceptable. However, as a test to certify if the engine and/or vehicle complies with emission standards, the I&M program falls short of the mark. It is simply not the proper method to determine the need for emission-related recall.

Sulfur Reduction:

Manufacturers of heavy-duty diesel engines support reduction of sulfur in diesel fuel to a level of 0.05% in order to meet the 1991 particulate emission regulations. However, we believe this reduction can best be accomplished by the EPA using existing Section 211 authority of the Clean Air Act.

Reducing the sulfur content of diesel fuel would provide health and economic benefits, including:

--remove a major hurdle to achieving the 1991 particulate standard without use of questionable aftertreatment technology;

--allow use of catalytic traps, a less complicated and safer aftertreatment technology for meeting the 1994 particulate standard;

--control both primary (engine-out) and secondary particulates (sulfates) in the ambient atmosphere;

--through nationwide fuel distribution, reduce emissions from both existing and new engines; and

--provide an effective method, for controlling particulate emissions, comparable in cost to other particulate control strategies.

rlc

Ford Motor Company Comments on the Senate Clean Air Standards Attainment Act of 1987 Committee Working Paper

Ford supports the concept of clean air and governmental efforts to assure the nation's air quality. In fact, the automobile industry -- perhaps more than any other single industry -- has done its part to reduce emissions from its plants and the vehicles it produces. Because of the tough emission standards now in place, continued reductions in automotive emissions are assured for the next two decades, without further tightening of existing standards.

Ford believes that it would be unwise to ignore this assured progress and embark on another round of tightening emission standards as is proposed in the bill now before the Senate Environmental Protection Subcommittee. More stringent emission standards would have an adverse impact on the automotive industry and business, in general, but would provide only limited leverage in achieving the nation's air quality goals. Such standards would also adversely affect vehicle fuel economy making it more difficult for domestic manufacturers, in particular, to meet the federal fuel economy standards.

The Nonattainment Situation

Indications are that numerous areas in the country will not be in attainment of the National Ambient Air Quality Standards (NAAQS) by the statutory December 31, 1987 deadline. The present nonattainment situation could be rationalized as a failure to impose sufficient restrictions in these areas. Existing data, on the other hand, indicate that the unique air quality problems of some of these areas may not be solvable with further tightening of existing standards.

Rather than addressing these unique problem areas as regional issues, the subcommittee bill would establish new, arbitrary attainment deadlines and more stringent requirements for mobile and stationary source emissions. At the same time, the bill would remove administrative flexibility and discretion to focus on different locations and sources. This approach undoubtedly will have adverse impacts on the nation's economy, business competitiveness, and productivity. And yet, there is no assurance that the nation's air quality goals can be achieved, even if the bill's requirements could be met.

The Role of the Automobile

The emission levels of today's automobiles represent a 96% reduction in hydrocarbons (HC) and carbon monoxide (CO), a 76% reduction in nitrogen oxides (NO_x) and approximately a 70% reduction in particulate matter (PM), versus uncontrolled levels.

Lower automotive emissions have contributed significantly towards achieving the NAAQS. Today, nearly all areas of the country are in attainment or projected to be in attainment of the CO standard and only portions of three counties in the Los Angeles area are not in attainment of the NO_2 standard. Reduced HC emissions have helped to lower ozone levels in many areas, but ozone attainment remains a difficult problem in certain areas, partly because of unique meteorological and geographic conditions.

Continued progress is assured in the years ahead as owners of older cars and trucks replace these vehicles with vehicles having the latest emissions control technology. An analysis of EPA's estimates of in-use emissions indicates that between 1986 and 2000, the emissions of the average vehicle in the fleet will be reduced by an additional one-half for HC and CO and another one-third for NO_x. Because of the stringency of today's motor vehicle standards and pending future truck standards, any further tightening of these standards would entail disproportionate costs as compared to the very minor long-term impact the proposed standards would have on achieving the nation's ambient air quality standards.

While we have problems with each title of the bill, our most serious concerns are addressed below. Additional detailed comments on certain provisions of the bill are provided in the attachment.

Mobile Source Standards

Achievement of the automotive requirements in the bill is simply beyond the reach of any known or envisioned technology. Each of the proposed numerical standards by itself represents a considerable, if not impossible, engineering challenge. But because the control strategy for hydrocarbons also adversely affects the control strategy for NO_x, this task is even greater. Further, the numerical standards are made at least twice as stringent by the proposed doubling of the vehicle useful life to 10 years/100,000 miles and the 90% pass rate for Selective Enforcement Audits (SEAs). To put this into perspective, in order to meet the proposed 0.25 gpm HC standard, for example, a vehicle would have to be designed to meet an HC certification level of less than 0.1 gpm, more than a 75% reduction from today's 0.41 gpm standard.

The level of the proposed standards indicates there may be some confusion as to how technical feasibility relates to emissions certification data. Today's certification data are below present standards because manufacturers must certify at levels that assure the standards will be met over the useful life of the vehicle. This may require, for example, certification levels as much as 50 percent below the standard because of the need to account for production variability, testing variability, probable customer use patterns, and usual component wear.

Even though the proposed standards are severe, the potential air quality benefits are relatively minor. Projections of EPA data indicate that a 0.25 gpm HC standard would improve HC emissions by only one percentage point beyond the emissions reductions that will occur automatically under existing standards as new vehicles replace those now on the road. Moreover, the bill's approach ignores the fact that regional ozone problems will require a far more complicated solution than just tighter mobile source emission standards. In fact, a Ford study of the 20 worst case areas for ozone pollution indicates that half of these areas would still be in nonattainment even if automobile emissions were eliminated entirely.

Reclassification of Light Duty Vehicles

Despite increased use of compact trucks, vans and utility vehicles for personal transportation, these vehicles are designed primarily for functional purposes, such as load carrying and trailer towing. This means that these vehicles must be designed with lower gearing and considerably different emission calibrations than passenger cars. If these vehicles were required to meet emission standards historically applicable only to passenger cars, Ford would have no choice but to reduce the functional capability of these vehicles or drop these products altogether.

Stationary Source Controls

The proposed standards would restrict compliance to the least cost efficient method, flue-gas scrubber desulfurization. A 1986 study showed that conversion of Ford's 20 coal-fired plants would require about $80 million in capital costs and result in a $19 million increase in annual operating costs not including disposal of high quantities of sludge produced. In addition, Ford would expect its plant electric utility charges to increase by about 10%, or $29 million annually.

Ambient Air Quality Standards

The need for additional tightening of national ambient air quality standards has not been shown. The existing statute assigns EPA the responsibility to review and revise the NAAQS as required to protect public health and welfare following consultation with the Clean Air Act Scientific Advisory Committee. The establishment of specific restrictive guidelines by pollutant, as contained in the draft legislation, will deprive EPA of the flexibility and authority it requires to do the best possible job of protecting the public health and welfare.

Control of Air Toxics

The Clean Air Act already addresses the need for control of criteria pollutants as well as unregulated pollutants, or air toxics, from mobile sources. Further requirements for mobile source air toxics are not needed as EPA and the auto manufacturers have set in place an effective assessment and control program to responsibly address any emissions which may be a threat to public health. Automatic listing of chemicals and mandatory controls will increase cost well beyond what is necessary to protect public health, and in many cases could mandate expensive controls without supporting scientific evidence that any public health problem exists.

Attachment

Detailed Comments on Senate
Clean Air Standards Attainment Act of 1987
Committee Working Paper

INTRODUCTION

S._____, The Clean Air Standards Attainment Act of 1987 (the bill) would amend the Clean Air Act in response to the fact that certain areas of the country have not yet attained ambient air quality standards. Without a detailed analysis of the causes of such nonattainment, the cost effectiveness and the fuel economy impact of proposed solutions, the bill would impose a series of drastically increased emissions control requirements on existing and new stationary and mobile sources. These standards are clearly unjustified, as recognized in recent EPA testimony, and are not technologically feasible.

Everyone supports the concept of clean air and the auto industry, perhaps more than any other entity in this country, has done its part. Present light-duty vehicle (LDV) emissions standards require a 96% reduction in hydrocarbons (HC) and carbon monoxide (CO), a 76% reduction in oxides of nitrogen (NOx) and a 70% reduction in particulate matter (PM) levels. The full effect of these standards has yet to be realized because of the existence of older vehicles not designed to meet today's emissions standards and those which have been misfueled, tampered with or improperly maintained. Our analysis of EPA estimates of in-use emissions indicates that between the years 1986 and 2000, the HC and CO emissions of the average vehicle in the fleet will be further reduced by 50% and NOx emissions by 33% (Exhibit I). The continued turnover of the motor vehicle fleet will result in virtually the same air quality improvement as is attributed to the more stringent standards proposed under this bill.

When viewed individually, the emissions standards in the bill are overly stringent. However, when the proposed standards are evaluated along with the extended useful life and 90% pass rate requirement for Selective Enforcement Audits (SEAs) of the bill, the standards become virtually impossible to achieve. When viewed with the other requirements of the bill, these standards are equivalent to imposing a 0.06 grams per mile (gpm) HC level and 0.9 gpm CO level, a NOx level that is approximately 0.12 gpm and a PM level that nears 0.04 gpm for new light-duty vehicles. There is no known technology which would allow the achievement of such standards.

Given this background, Ford does not believe that more stringent standards are needed. Instead, EPA should determine the actual air quality in the Nation, the known causes of any air quality problems, available solutions to such problems and the cost effectiveness of such solutions. Ford believes that further emissions reduction requirements for the auto industry are neither necessary nor cost effective, particularly in view of the continued improvements in emissions that will result with fleet turnover.

In addition to these general comments, Ford has several specific concerns with the bill which are summarized below:

MOBILE SOURCE (TITLE III OF THE BILL)

0.25 gpm HC Standard for Light-Duty Vehicles

Existing LDV emissions standards (0.41 gpm) reduce HC emissions by 96%. Current technology is not capable of achieving a 0.25 gpm standard in-use and there is no known technology which can achieve 0.25 gpm for a 10 year/100,000 mile useful life as proposed in the bill. The proposed HC standard, even if theoretically feasible, would only reduce ozone by less than one-half of one percent, in the year 2000.

To the extent that further reductions in emissions are possible, such reductions could only occur at great expense and would result in significant customer dissatisfaction, caused by such things as poor driveability and decreased fuel economy. Therefore, we believe that any further tightening of the HC standard is not justified.

0.4 gpm NOx Standard for Light-Duty Vehicles

Existing LDV emissions standards (1.0 gpm) have reduced NOx emissions by 76%. These reductions will continue without any change in the stringency of the standards (the total fleet NOx emissions will decrease by 31.8% during the years between 1987 and 2000). Lowering the passenger car NOx standard to 0.4 gpm would only provide a 6% further reduction from total fleet NOx emissions. Since highway sources of NOx account for only 36% of total NOx (1985), the air quality impact of the 0.4 gpm standard would only be about 2%. However, current technology is not capable of achieving a 0.4 gpm NOx standard in-use with existing federal HC and CO standards, and there is no known technology which can achieve 0.4 gpm NOx standard for a 10 year/100,000 mile useful life in conjunction with tighter HC and CO standards as proposed in the bill.

Ford believes that further tightening of nationwide automobile NOx standards is not warranted, would not be cost effective and would detract from the nation's fuel conservation efforts. A lower NOx standard is not needed to comply with the national NO_2 air quality standard because only three counties in southern California are not now in attainment and California already has unique NOx standards to deal with its air quality situation. (It should be noted that California's 0.4 gpm NOx standard, scheduled for 100% implementation in 1994, is accompanied by a 7.0 gpm CO standard rather than the federal 3.4 gpm standard and a 0.39 gpm non-methane HC standard rather than the federal 0.41 gpm total HC standard.) Further, a reduction in NOx may have an adverse impact on ozone. As reported by the California Air Resources Board (CARB), a reduction in NOx has the effect of reducing ozone in "downwind" urban areas and causes an increase in ozone in "upwind" areas . Based on the above, and the fact that the mobile source contribution to acid deposition is less than 10%, any further tightening of the NOx standard is not necessary.

Onboard Hydrocarbon Controls

The bill would require a nationwide system of car and truck onboard hydrocarbon controls to be installed in the 1991 model year. Such a nationwide system would be extremely costly and is not a rational answer to what are essentially regional problems. In addition, onboard controls would produce little real improvement in air quality. EPA has estimated that refueling vapor emissions make up only about 2% of the volatile organic compound (VOC) inventory. Even this minimal reduction would not be fully realized for at least 15 years because of lead time and fleet turnover considerations.

Moreover, several critical nonattainment regions of the country have adopted Stage II controls. Onboard systems are redundant with Stage II and it would make little sense to require both. In fact, a recent CARB analysis (July 2, 1987 letter from CARB Chairperson J. Sharpless to State Senator Newton R. Russell) concluded that the implementation of onboard controls on all new vehicles which are fueled at Stage II-equipped stations would actually increase emissions from service station storage tanks. Given these considerations, it is clear that onboard systems are not a cost effective way to control VOC's.

Ford also shares the concerns cited by the National Highway Traffic Safety Association (NHTSA), among others including Members of Congress, with the safety issues associated with onboard control systems. In our opinion, onboard control systems do not warrant implementation due to the limited and uncertain air quality benefits attributed to them and because safety concerns have not been fully evaluated.

10 Year/100,000 Mile Useful Life

The proposed doubling of the current 5 year/50,000 mile passenger car useful life provision is unwarranted, would be extremely difficult to meet and unduly costly. In order to be certain of in-use compliance at 100,000 miles, manufacturers would have to certify vehicles at levels well below the standards (Exhibit II), which would be impossible under the standards proposed in the bill.

The useful life provision represents an inappropriate attempt to place all automobile emissions-related responsibilities on the manufacturers of vehicles. As a vehicle ages, it is extremely difficult for a manufacturer to influence how it is used and emissions-related factors increasingly become outside the manufacturers' control. Accordingly, emissions responsibilities should be shared among manufacturers and users. Users can share responsibility by not tampering with or misusing vehicles and by properly maintaining their vehicles.

Substitution of "Normal" for "Proper" Maintenance and Use

Manufacturers define "proper" maintenance and use so that consumers and service repair operations are aware of how they can extend vehicle life and performance and decrease emissions. EPA has promulgated regulations which restrict the amount of maintenance the manufacturers can recommend and upon which the emissions warranty may be conditioned. The Clean Air Act recognizes that this is a desirable goal. The proposed bill would substitute a concept of "normal" maintenance and use which would reduce the maintenance required of vehicle owners and result in increased emissions.

Much like the proposed extended useful life provision, the concept that manufacturers should assume all emissions-related responsibilities is inappropriate and unwise. Requiring vehicle owners to properly use and maintain their vehicles makes sense, is cost effective and reduces emissions. The proposal fails to recognize the significant design improvements (for example, electronic fuel injection, electronic engine controls, and breakerless high voltage ignition system) already implemented by manufacturers to minimize the maintenance obligation of consumers.

90% Pass Rate for Selective Enforcement Audits (SEAs)

The proposed 90% pass rate requirement for SEAs would result in a dramatic tightening of the emissions standards. A 90% pass rate requirement would effectively require manufacturers to build every vehicle so that it would pass the required emissions certification tests, allowing for test and vehicle variability. The only way a manufacturer could assure such a result would be to actually run the certification tests on every vehicle built. Such testing is not practical and would eliminate the efficiencies gained by conventional statistical sampling practices. EPA, of course, recognized this when they established the existing and very stringent SEA requirements.

Eliminate "Averaging" So That Each Vehicle Must Pass Standards

Like the proposed 90% pass rate requirement for SEAs, the bill specifies that emissions standards must be met by each vehicle or engine rather than the current engine-family certification system. This ignores the problems associated with mass production in an inappropriate attempt to further increase the stringency of the standards.

Instead of focusing on the tightening of every provision of the Clean Air Act, irrespective of cost, a rational approach to improving clean air would be to examine cost effective ways of achieving improvements. In all likelihood, this analysis would lead to greater use of averaging and would encourage such concepts as banking, trading and nonconformance penalties.

State I/M Test Results Used to Suspend or Revoke a Certificate of Conformity

State inspection/maintenance tests do not correlate to Federal Test Procedure (FTP) results. Inspection/maintenance tests are run under a variety of conditions and are primarily designed to identify "gross emitters." Accordingly, there is no rational basis to use such tests to suspend or revoke a certificate of conformity.

Eliminate "In The Aggregate" Language from Section 209(b)(1)

This proposal would eliminate California's current flexibility in meeting its emissions problems. Since the remaining air quality problems in California are unique in nature, such a provision makes little sense.

Redefinition of Light-Duty Vehicles

The bill's redefinition of light-duty vehicles would require that trucks (including such vehicles as the Ford Ranger, Bronco II and Aerostar) of less than 6,000 pounds GVWR must meet light-duty vehicle emissions standards historically applicable only to passenger cars. Such a requirement ignores the significant differences between cars and trucks. Current light-duty trucks utilize the best available emission control technology (essentially identical to passenger cars) but have higher emissions standards than cars in recognition of the fact that they must be designed to handle widely varying truck functions.

vehicle design must reflect the fact that trucks need to pull and/or carry heavier loads than passenger cars and be capable of being modified to perform special work-related tasks, such as plowing snow. As such, trucks typically have numerically higher axle ratios, which are necessary to permit them to carry out these special functions. Because of these differences, trucks are designed with higher profiles and a boxier style which makes them less aerodynamic, requiring more power than passenger cars. There have been improvements in the aerodynamics of trucks over the years, and Ford is a known industry leader in aerodynamics. We have downsized certain vehicles (Ranger, Bronco II and Aerostar) to improve overall truck efficiency. However, because of design limitations and customer demand for special functions, trucks are presented with a more difficult task relative to emissions and fuel economy.

It should be recognized that because of the differences between cars and trucks, numerically identical standards are, in fact, not equal. Trucks that use the same size engine as cars end up producing greater mass flows of exhaust because of the different design parameters required for their work purposes. Therefore, numerically equal standards for cars and trucks would actually impose a significantly greater emissions control task on trucks and be detrimental to vehicle fuel economy.

Furthermore, this provision could actually have a deleterious impact on the environment by forcing consumers to purchase larger trucks which are certified to less stringent emissions standards. It is clear that such a result is not in the public interest.

0.5 gpm NOx, 0.5 gpm HC, and 5 gpm CO for Light-Duty Trucks

As discussed in the light-duty vehicle section, further tightening of the NOx standard is not needed, would reduce fuel economy and adversely affect vehicle performance. Tightened HC and CO standards may not be technically feasible. There is no need for tighter HC standards because even the most stringent truck emission proposal would improve the projected reduction in HC emissions by only one percentage point beyond the emissions reductions that will automatically occur without further changes in the standards. There is no need for tighter CO standards because most areas of the country are already in attainment and further progress is assured as new vehicles replace older vehicles.

0.08 gpm Particulate Standard for Light Trucks

Existing emissions standards have reduced PM approximately 70% from precontrolled levels. Current technology is not capable of achieving a 0.08 gpm standard and there has been no showing that the slight incremental benefit of such a standard would have any significant impact on the environment. It is also important to recognize that the sales volume of vehicles that would be subject to this standard (diesels) and, therefore, the air quality impacts are negligible.

4.0 g/bhp-h Heavy-Duty Truck Exhaust NOx Standard

EPA recently established heavy-duty NOx standards for heavy-duty trucks (5.0 g/bhp-h) which will be extremely difficult to meet given the tightened particulate standards. As previously noted, this proposed increase in stringency is unwarranted in view of the virtually complete attainment of the national NO_2 air quality standard.

1.7 g/bhp-h Heavy-Duty Truck Diesel Exhaust Standards

No known technology exists which can achieve this proposed standard.

0.1 g/bhp-h Heavy-Duty Truck Diesel PM Standard

EPA recently established PM standards for heavy-duty diesel engine trucks at the limits of current technology. Any further tightening would be unjustified.

Sulfur in Diesel Fuel

The Clean Air Act currently provides EPA with authority to regulate fuels or fuel additives upon consideration of available medical, scientific, economic and cost/benefit data. The sulfur reduction issue is currently under active review within EPA. In light of this existing authority and the ongoing EPA review, there is no need for additional legislative action.

AIR QUALITY STANDARDS
(Title IV of the Bill)

Title IV - Ambient Air Quality Standards

The need for additional tightening of national ambient air quality standards has not been shown. The existing statute assigns EPA the responsibility to review and revise the NAAQS as required to protect public health and welfare following consultation with the Clean Air Act Scientific Advisory Committee. The establishment of specific restrictive guidelines by pollutant, as contained in the draft legislation, will deprive EPA of the flexibility and authority it requires to do the best possible job of protecting the public health and welfare.

Requirement for an Additional Primary NAAQS for Ozone

We are aware of no data which support the need for an 8-hour standard in addition to the one-hour standard. The stipulation that the standard be more protective of the public health than the existing standard is illogical, since the basis for the existing standard (which EPA was authorized to set using any appropriate averaging period) is adequate to protect public health and welfare. EPA has the authority to take such action if they conclude it is justified.

Requirement For an Additional Primary NAAQS for Nitrogen Dioxide (NO2)

We are not familiar with any data which relate short-term acute NO_2 exposures to adverse health effects. Accordingly, the existing standards appear adequate. EPA has authority under existing statutes to adopt a one-hour standard following a proper review of available data.

Requirement For An Additional Primary NAAQS for Carbon Monoxide (CO) that is Applicable to High Altitude Areas

We are not aware of data supporting a differentiation by altitude in setting the CO NAAQS. An HEI sponsored study on the cardiovascular effects of exposure of animals to 35 ppm CO at sea level and at 10,000 feet elevation showed no adverse effects at either altitude. HEI presented preliminary data from this study in February, 1987.

Requirement for an Additional Primary
NAAQS for Sulfur Dioxide (SO2)

We are not familiar with any data which relate short-term acute SO_2 exposures to adverse health effects. Accordingly, the existing standards appear adequate. EPA has authority under existing statutes to adopt a one-hour standard following a proper review of available data.

Requirement for a Secondary
NAAQS for Fine Particles

EPA is working on primary and secondary standards for fine particulate (PM_{10}). Therefore, this provision is unnecessary.

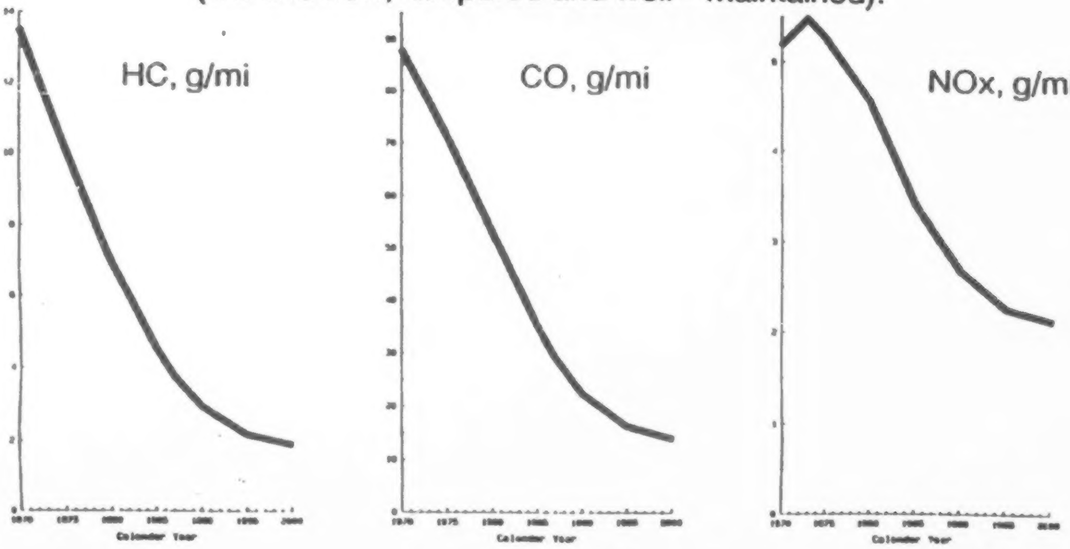
Requirement for a Primary
NAAQS for Acid Aerosols

We are aware of no relevant data which might be cited as a basis for classifying acid aerosols as adversely affecting health. Furthermore, these aerosols will be controlled by a PM_{10} standard.

Exhibit I

HISTORICAL AND PROJECTED MOTOR VEHICLE EMISSIONS REDUCTIONS

Average Motor Vehicle Emissions by Calendar Year.
Includes all cars, light – duty trucks, and heavy – duty engines
(old and new, tampered and well – maintained).



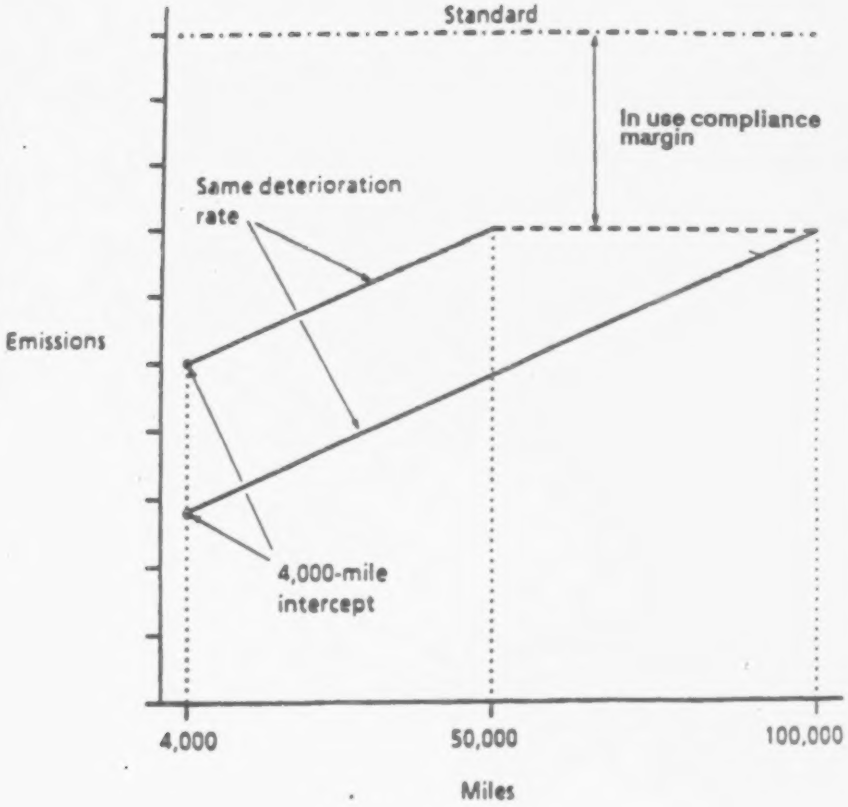
Total Hydrocarbons
1970 – 1987: Down 72%
1970 – 2000: Down 86%

Carbon Monoxide
1970 – 1987: Down 67%
1970 – 2000: Down 84%

Nitrogen Oxides
1973 – 1987: Down 43%
1973 – 2000: Down 61%

Exhibit II

Effect of Longer Useful Life



General Motors Corporation

LEWIS I. DALE
DIRECTOR, WASHINGTON OFFICE
INDUSTRY-GOVERNMENT RELATIONS
(202) 775-5092

August 31, 1987

The Honorable George J. Mitchell
Chairman, Subcommittee on
Environmental Protection
176 Russell Senate Office Building
Washington, D.C. 20510

Dear Mr. Chairman:

Enclosed with this letter is General Motors' statement for the record of the Environmental Protection Subcommittee's July 22-23 hearing on the Committee Working Paper on the Clean Air Standards Attainment Act of 1987.

Thank you for this opportunity to expand upon our comments on this legislation.

Sincerely,

Lewis I. Dale

LID/cdd
Enclosure

1660 L Street, N.W. Washington D.C. 20036

FE-4079

RECORD STATEMENT OF

GENERAL MOTORS CORPORATION

TO THE

SENATE ENVIRONMENT AND PUBLIC WORKS SUBCOMMITTEE

ON ENVIRONMENTAL PROTECTION

JULY 22-23, 1987 HEARING

WASHINGTON, D.C.

GENERAL MOTORS CORPORATION COMMENTS ON SENATE COMMITTEE WORKING PAPER DATED JULY 10, 1987

The Committee Working Paper on the Clean Air Standards Attainment Act of 1987 contains a wide range of measures intended to address the air quality situation in a number of areas of the Nation. There is considerable variation in the severity of nonattainment with air quality standards in these areas: some are projected to reach attainment in the next few years with no further control, while for others attainment cannot be projected for any time in the foreseeable future, even with strict control measures. Because of this variation, an effective solution would seem to require the flexibility to address the particular problems existing in each of these nonattainment areas. However, the Working Paper takes exactly the opposite approach, mandating a host of stringent measures across the board and restricting the discretion of local governments and the Environmental Protection Agency to fashion individualized strategies.

The result of this approach is a collection of requirements that would impose economically disruptive, socially burdensome, and administratively unwieldy "solutions" that are ill suited to deal with the problems at hand. For example, the ozone control provisions in Title I would virtually prohibit new industrial facilities with state-of-the-art emission controls in areas with severe ozone problems, because of vastly expanded emission offset requirements. Reducing the importance of cost as a legitimate determinant of appropriate control levels and eliminating the ability to "trade" emissions inhibits the achievement of emission reductions in an efficient, cost-effective manner. Even more perversely, requiring successive three-year emission reductions will effectively force many highly controlled facilities in nonattainment areas to curtail production, shut down completely, or to relocate in attainment areas or foreign countries, because of the prohibitive cost or even technological impossibility of achieving the mandated reductions. The impact on the tax base and employment in nonattainment areas would be devastating. This provision would also work to the benefit of new entrants to the domestic manufacturing scene, many of them foreign-based companies establishing operations in the U.S. for the first time. Since these operations could easily locate in attainment areas initially (as several already have), they would escape the emission control or relocation costs that would be incurred by their established domestic competitors.

Similarly, Title II's acid rain provisions would impose a rigid and excessively costly control program designed to solve a "problem" that is not sufficiently understood to permit determination of whether any new "solution" is necessary, much less the most effective solution. Yet, findings in the 1986 Annual Report of the National Acid Precipitation Assessment Program show that the Clean Air Act already is reducing emissions of sulfur dioxide and oxides of nitrogen. These reductions will continue as older plants and vehicles are replaced by new ones meeting current emission standards.

The Title III provisions governing mobile sources require further emission reductions which are individually very challenging, if not infeasible, and in the aggregate are impossible to meet across a broad product line. Compounding the difficulty of these requirements, the Working Paper doubles the period over which vehicle emission systems must be warranted, substantially increases the stringency of assembly line emission testing, and eliminates the duty of vehicle owners to properly maintain their vehicles. In this manner, the Working Paper embarks on a quest for small incremental, but disproportionately more costly, emission reductions, beyond the substantial reductions that have already been achieved, and the further reductions that automatically will be achieved in the future through fleet turnover, as new low-emitting vehicles replace older higher-emitting vehicles. However, EPA data shows that the air quality improvements resulting from stricter standards would be minimal, while the costs would be great.

Title IV would force EPA to rush to adopt new and stricter air quality standards. EPA already has adopted standards based on application of its expertise in light of available scientific evidence. Consequently, these provisions require new standards based on little more than speculation about the potential health effects of exposure to various pollutants.

Finally, in Title V, the Working Paper sets up a scheme of regulation of air toxics which largely duplicates requirements already contained in recently adopted legislation (such as last year's Superfund reauthorization act) without any attempt to determine whether further measures are necessary.

In all, the Working Paper represents an ill-advised attempt to legislate details of environmental policy that would be better left to the administrative process or left alone. The excessive costs it would impose are an unnecessary hindrance to the ability of this country and its industries to compete with foreign manufacturers. Although some changes in the Clean Air Act certainly are necessary to deal with the impending December 31, 1987, compliance deadlines for ozone and carbon monoxide air quality, this package clearly goes beyond what is necessary. It will likely have adverse impacts far in excess of any positive effects and should not be adopted.

TITLE I PROVISIONS

Section 101: The "Good Faith Effort" Prerequisite for Attainment Date Extension

The Committee Working Paper establishes a "good faith effort" prerequisite for states to receive any federal consideration for approval of a post-1987 attainment date. However, it fails to establish any objective criteria or guidance whatsoever for EPA to decide whether to review State Implementation Plan (SIP) revisions or to reject them out of hand. The consequences of failing to qualify for any consideration of an extension are simply too great to leave the matter subject to unbridled EPA interpretation, perception, or policy. If a state is to be denied consideration, the decision should be based on a verifiable failure to satisfy clear, precise statutory grounds. Unless clear objective criteria can be detailed in the Working Paper, the "good faith effort" prerequisite should be eliminated.

The consequences of a state failing to make what EPA might consider a "good faith effort" are particularly severe, because no alternatives are provided for states deemed to have acted in "bad faith." A "bad faith" state may not submit a SIP revision to provide for eventual attainment, whether by 1992 or any year thereafter. A new source construction ban and federal funding sanctions must remain in effect until attainment is reached.

This approach is inconsistent with the recognized need to encourage adoption and implementation of further ozone precursor control measures in persistent nonattainment areas, within the longstanding context of a federal-state partnership in attaining the ambient air quality standards. The punitive nature of a subjective determination of "bad faith" would retard communication and destroy even minimal cooperation for states where more cooperation and communication would seem to be most beneficial and desirable.

Section 101: Arbitrarily Required Inventory Reductions

The Working Paper imposes arbitrary reductions on hydrocarbon (HC) volatile organic compound (VOC), oxides of nitrogen (NOx), and carbon monoxide (CO) emissions. These reductions are unwarranted at best and may be counterproductive at worst.

The mandated reduction of both HC and NOx emissions is an attempt to control ambient ozone concentrations, but it does not recognize that in the complex chemistry of ozone formation, HC and NOx play very different roles. In fact, it is well recognized that whereas reductions in HC always tend to reduce ozone, reductions in NOx can either reduce or increase ozone, depending on the HC/NOx ratio prevailing in the area where the controls are to be imposed. In areas with HC/NOx ratios of 10 or less, reducing NOx will increase ozone concentrations. Consequently, in urban areas, where the HC/NOx ratios are usually less than 10, simultaneous reduction of both HC and NOx is likely to reduce ozone less than HC reductions alone.

The best way to address this complex situation and assure that emissions reductions will produce the maximum ozone reductions is to develop and apply sophisticated mathematical models for ozone formation and transport. EPA and other organizations have developed regional ozone models. But, the models require validation, and this step should be completed as soon as possible. Use of the models should be required in the preparation of SIPs, so that emissions reductions imposed in any given area are maximally effective not only in that area, but also in downwind locations.

For CO, it has not been shown that the wholesale emissions reductions included in the Working Paper are necessary for health reasons since, in some cases, high CO levels are the result of misleading data from improperly located monitors. Many ambient CO monitors are located in heavy traffic locations, and their measurements strongly influence whether an entire area is in attainment of the NAAQS. Thus, even massive reductions in CO emissions may not overcome the bias introduced by poor measurement techniques.

Moreover, because of their locations, the monitors do not measure the quality of the air actually being inhaled by any significant portion of the population for more than a few minutes at a time. Because of this, even in nonattainment areas, very few people likely are exposed to CO concentrations in excess of the standard.

Section 101: The Prohibition of Emission Trades in Nonattainment Areas

The prohibition against emission trades in nonattainment areas that the Working Paper requires in the 1989 SIPs is counterproductive. Trading of emissions is a cost effective way to achieve air quality benefits. Allowing trading does not detract from air quality improvement because whatever level of emission reduction necessary is still achieved. It simply allows a given improvement to be achieved at whichever source in a geographical area can implement control at the lowest possible cost. Often, the result is greater emission reductions than might otherwise be achieved.

The December 1986 EPA final emission trading policy was crafted to prevent recognized past abuses and to preserve the real values of emission trading to industry, society, and regulatory agencies. Elimination of emission trading is premature, since the effects of EPA's new trading policy have not been fully realized.

Allowing emission trades under tightly controlled conditions does not sacrifice progress toward attainment. In fact, it will accelerate attainment. Each application to trade automatically provides detailed information to the state agency and EPA on a lower-cost control opportunity. This information may well become the basis for controlling other similar sources to lower levels. Thus, trading could lead to reducing emissions from a wider range of sources than those directly involved in the trade, and should not be prohibited.

The new definition of Reasonably Available Control Technology (RACT) in the Working Paper de-emphasizes cost-effectiveness, making mechanisms like trading even more important in achieving air quality improvements at a reasonable cost. Because additional control opportunities in already heavily regulated nonattainment areas are severely limited, government needs to encourage industry innovation and cooperation, not foreclose it.

The job at hand, particularly in post-1992 nonattainment areas, will be so difficult, costly and disruptive that statutory barriers to finding new, less costly control opportunities should not be created. It is obvious that government-imposed rules for a very wide variety of industrial sources have not been adequate to reach attainment so far in many urban areas. If anything, the Clean Air Act should explicitly encourage the industrial community to come forward with its own ideas, which emission trading clearly promotes.

Section 101: Mandatory Areawide and Source-Specific Reduction Increments for Post-1992 Nonattainment Areas

The notion of a smoothly-progressing area-wide further progress requirement in post-1992 nonattainment areas is deeply flawed for at least two reasons. It implicitly assumes that: (1) reductions from current ozone concentrations down to the level of the standard are proportional to VOC and NOx emission inventory reductions, which, as discussed earlier, may or may not be true and indeed may vary considerably over the 1987-1997 period as the nonmethane hydrocarbon/NOx (NMHC/NOx) ratio varies; and (2) further control opportunities are so plentiful and individually so measurably effective that state agencies have the ability to arrange and schedule them on a smooth descending curve.

Perhaps acknowledging the unrealistic and unworkable nature of this concept, the Working Paper provides no penalties for a state that misses any of its three-year area-wide percentage reduction objectives, in stark contrast to the extremely harsh penalty provision for individual sources that miss theirs. States must be motivated to require reductions as soon as realistically possible, but the reductions will be so costly and difficult to generate from already well-controlled stationary sources that the required linear pattern is too simplistic and too constraining to be workable.

The source-specific mandatory reduction increments are also seriously flawed in at least two respects: (1) for the first time, source-specific reductions are not related to technological control potentials, and (2) they ultimately will force a significant number of existing sources to curtail production or to shut down completely, with the attendant loss of jobs, or to relocate to an attainment area (or another country). This will happen simply because, for many sources, the cumulative percentage reductions eventually exceed the technological capability to further reduce emissions at normal production levels.

It is reasonable to anticipate that in most post-1992 nonattainment areas, reductions like 40-50% from 1987 baselines will be required in 1994; 50-65% in 1997; and 65-80% in 2000. Since almost sources of appreciable size in persistent nonattainment areas are already controlled to RACT I or II levels (typically 70-90% reductions from uncontrolled 1970s baselines), the further percentage reductions required in the Working Paper apply to small remaining fractions of original baseline levels. Since most RACT I and II VOC limits are so aggressive, in many cases there will not be much difference between 1987 emission levels and whatever "max-RACT"/LAER (Lowest Achievable Emission Rate) can generate. Thus, crediting reductions achieved by meeting 1989 SIP "max-RACT"/LAER requirements is relatively meaningless. Since such credit would only delay an inevitable curtailment, shutdown, or relocation, there will be little incentive for making the sizable investments necessary to meet these requirements in the target nonattainment area.

All parties to the debate should understand that, starting by 1994 for some sources and increasing greatly thereafter, industries with today's state-of-the-art controls probably will have to begin curtailing production to meet the mandatory source-specific percentage VOC and NOx reduction requirements and to avoid the extremely harsh penalties detailed in the Working Paper.

There is an even more insidious impact on industries that operate a variety of different sources in coordination with each other to produce a single product. Automobile assembly plants are an example, containing upwards of ten separate major coating systems using different coatings that all serve different essential functions on the finished product.

Under the Working Paper scheme, when the first of these systems reaches its technological control limit, the entire plant will be forced to curtail output to comply with mandated emission reductions. This is only one example of how the rigid requirements of the Working Paper will create much more severe economic dislocations than would be necessary to achieve the same air quality improvement using a more flexible approach, such as emission trading.

With no ability to trade emissions among the various systems, some of which operate today at the lowest possible emission rate, early curtailment would be unavoidable, and any investment in more stringent control technology where possible on other systems could not be justified.

Section 102: Requirements for Ozone and Carbon Monoxide Attainment Date Extensions to 1992

Realistically, none of the proposed 1989 SIP requirements would have any material influence on 1992 ozone attainment. This is because 1992 attainment will be based on 1989-1990-1991 ambient monitoring results, and most VOC and NOx reductions anticipated from new "max-RACT" control measures in the 1989 SIPs couldn't be realized until 1992 at the earliest. Requiring Stage II vapor recovery programs to be operational in 1990, within one year of SIP adoption, is unrealistic, given the 1989 SIP adoption timing and the fact that it would be an entirely new SIP requirement in most states. All parties to the debate should realize that, to the extent that ozone attainment occurs by the end of 1992, it will result from current motor vehicle and stationary source control programs, not new 1989 SIP requirements.

Even in areas where attainment could be achieved by 1992, the Working Paper would impose greatly expanded control programs and higher control costs associated with the new "maximum degree of reduction" RACT limits that states must adopt and forever enforce for existing VOC/NOx sources of 25 tons/year and greater. It makes more sense to focus available federal, state, and industrial resources on "max-RACT" controls for post-1992 nonattainment areas, and not require them in areas where their impact will come too late to influence 1992 attainment. It does not make sense to burden areas that have realistic probabilities of attainment by 1992 with expensive and greatly expanded programs that cannot help in that effort.

Section 101: The Role of Ozone Modeling

The existing models and the data needed to apply those models are less than perfect. Thus, the requirements in the Working Paper give an importance to ozone modeling that is far out of proportion to the trustworthiness of the tool. EPA has been concerned for years with the degree of manipulation that is possible with city-specific empirical kinetic modeling approach (EKMA). The profound economic and lifestyle impacts of the Working Paper, particularly in post-1992 nonattainment areas with severe mandatory three-year progress increments on both area-wide and source-specific bases, would invite widespread state "gaming" to minimize VOC/NOx area-wide reduction percentages.

Modeling is not yet precise enough to provide the 20-year demonstration of maintenance of the standard required for approval of 1989 SIP revisions for 1992 attainment date extensions. Again, the severe consequences of failing to make a successful maintenance demonstration (SIP disapproval; prolonged sanctions) invite overt gaming with input data and widespread skepticism about the modeling results, which undermine the integrity of the process.

A five-year projection through 1997 might be more realistic, if a 1989 prediction of possible recurring marginal nonattainment by 1997 was not by itself grounds for disapproving a SIP revision that demonstrated attainment by the end of 1992. Available ozone models are not accurate enough to justify anything more than very close monitoring of ambient ozone through the late 1990s and thereafter, with subsequent SIP revision if necessary. The available models certainly are not accurate enough to justify disapproval and prolonged sanctions in an area solely on grounds of an imprecise 1989 prediction of possible marginal nonattainment by 1997.

Another inherent flaw in the 20-year demonstration requirement is that it reinforces the totally unfounded notion that enough ozone "science" is understood so that the Clean Air Act will never again have to be amended. It is not reasonable to approach the current nonattainment problem expecting that "this time we're going to fix it everywhere forever." Seventeen years of dealing with the ambient standards, particularly ozone, clearly show the need not to overestimate what can be achieved by amending the Clean Air Act at a given point in time.

It is important to follow progress in reducing emissions by carefully measuring ambient HC and NOx levels as well as ozone concentrations. This will allow a determination of the effectiveness of control actions taken as well as modeling predictions. Then, using improved models and input data, periodic SIP revisions could occur as necessary.

Section 103: Newly Defined Ozone Transport Regions

Whether establishment of ozone transport regions and their attendant commissions is necessary is a political question. Regardless of whether these regions and commissions are established, however, measures taken to attain the ozone NAAQS should be based on sound mathematical modeling of ozone formation and transport in the region in question. The HC/NOx/ozone chemistry is very complex, and mathematical modeling is essential in determining the effects of emissions reductions on ambient ozone concentrations. Also, EPA and others have developed regional ozone models that after validation should be made required for any SIP attainment demonstration or for developing region-wide ozone control strategies.

However, serious concern exist whether regional commissions will be able to agree on what measures need to be undertaken. The states represented on a commission inevitably will have some conflicting interests, making agreement difficult, if not impossible. It is not apparent that regional commissions will be better able to make the hard decisions needed to deal with regional problems than EPA, which already has similar authority. If this is the case, it serves no purpose to create new bureaucracies to deal with regional nonattainment problems; and this task should be left to EPA.

Section 104: The Mandatory Construction Ban in Areas Where Nonattainment Persists Past Statutory Dates

The ban on issuing permits to construct new or modified emission sources in areas where ambient concentrations exceed standards after statutory attainment dates makes no air quality management sense. Under existing federal and state rules, new sources in nonattainment areas simply cannot be permitted, unless the project results in progress toward attainment.

Proposed new sources, besides meeting LAER, must demonstrate that they will actually improve air quality by virtue of emission offsets that must be real reductions from existing sources, supplemental to reductions required in the SIP for attainment, in excess of the quantity of new emissions expected.

There is no way that new sources legally permitted in nonattainment areas under these rules can detract from air quality. Quite the opposite is true - new sources can only accelerate progress toward attainment, especially if they replace old sources. Not only is it illogical to ban new sources, particularly in view of the requirement in this Working Paper for 200% offsets; it is tragically shortsighted not to encourage them in every possible way.

Another ramification that must be addressed is the way that the construction ban is likely to impact the new "max-RACT" stationary source control programs required in the Working Paper. EPA RACT I standards for automotive coating processes typically have required extensive modification or outright replacement of the original affected coating facilities. EPA holds that such large scale, and expensive projects automatically trigger New Source Performance Standards and new source permits, which require LAER and offsets, regardless of their being undertaken to meet original RACT limits. The new "maximum achievable degree of reduction" definition of RACT in this Working Paper, which minimizes cost considerations, surely will result in many more instances where high control costs will trip the same trigger for new source permits. Industry will have to apply for and obtain such permits to meet aggressive "max-RACT"/LAER compliance schedules long before EPA publishes final SIP approvals and lifts the construction bans now being proposed for many nonattainment areas.

However, the mandatory construction ban that must remain in effect pending EPA final SIP approval will prohibit issuing of such permits. Without the permit, the source can not legally install and begin to operate the required "max-RACT"/LAER controls. The only option for a source owner or operator to avoid noncompliance will be to cease operation until a permit can be obtained and the controls installed, i. e., wait for final SIP approval.

(How industries can possibly meet the 200% offset requirement in such instances will be another major problem. As the Working Paper is written now, offsets will only become available when existing sources shut down; if they have to be generated internally by an industry that has no simultaneous shutdown reductions, existing productive capacity will have to be sacrificed to meet the 200% requirement.)

EPA, however, cannot approve the revised SIP and lift the construction ban if the requirements that the state adopted and submitted for federal approval are not being implemented. This gridlock, which has extreme unintended consequences for an affected industry and locality, is an unavoidable result of EPA's position on new source triggers and the requirements in this Working Paper that (1) effectively redefine today's LAER as tomorrow's RACT, with only minimal (if any) consideration of cost, and (2) require it to be retrofitted on existing sources in all post-1987 extension areas.

Section 106: Outer Continental Shelf Provisions

The proposed outer continental shelf (OCS) provisions assume without technical basis that emissions generated off-shore cause on-shore nonattainment. The provisions do not recognize the minimal impacts of OCS operations on coastal air quality. Also, the Working Paper abdicates any federal authority over OCS operations to the adjacent coastal States. Such a provision could lead to fragmented and possibly conflicting regulation of OCS sources.

More importantly, the provisions could conflict with national concerns over our dependence on foreign energy supplies. Stringent OCS requirements could hamper our OCS energy development projects.

We believe federal authority should be retained over these OCS emission sources. Any revision of the Clean Air Act should require EPA to study OCS operations and to propose, if necessary, emission regulations based on air quality improvements needed, the feasibility of additional emission controls, and the cost effectiveness of such controls.

TITLE II PROVISIONS

General Motors has testified before this Subcommittee on a number of occasions to explain why it cannot support costly acid deposition control legislation at this time. Such legislation is premature because not enough is yet known about the problem to properly address it. A great deal of research on the causes and alleged environmental effects of acid rain is currently being conducted, and much of will be completed within the next few years. After this research is completed, it will be possible to examine the acid rain question and decide whether additional legislative action is needed, or whether the requirements already contained in the Clean Air Act will be sufficient. If additional measures are needed, the research will provide guidance on what actions should be taken to achieve a cost-effective approach. Actions taken in the absence of such information are likely to be misdirected and wasteful.

The recently-released 1986 Annual Report of the National Acid Precipitation Assessment Program (NAPAP) makes the point that the Clean Air Act is working to reduce emissions. It points out that "[s]ince 1975, national SO_2 emissions from coal-fired power plants have decreased by 10 percent while coal consumption has increased by 70 percent," and credits the Clean Air Act with this improvement. The NAPAP report also states that "NOx emissions increased steadily until about 1977 (threefold since 1940) after which they have remained roughly constant." NAPAP also concluded that "[a]s old power plants reach the end of their economic life and are repowered or replaced by new NSPS plants, the emissions of SO_2 will decrease." These findings hardly support contentions that immediate action is necessary to deal with acid rain.

The EPA concurs that there is time to develop well-designed approaches to dealing with whatever problems acid rain may cause. In his April 22, 1987, testimony before this Subcommittee, EPA Administrator Lee Thomas said "a decision on additional controls without such [additional] knowledge would be inappropriate, not because the controls are unnecessary or too expensive, but because it is premature and unwise to prescribe emissions controls based upon an inadequate understanding of the problem."

In addition to a lack of scientific understanding of the acid rain problem and the absence of a compelling need to rush to adopt new controls, Mr. Thomas' comments notwithstanding, the economic impact of such controls must be considered. The Working Paper would require SO_2 emissions to be limited to 0.9 pounds per million BTUs of heat input for all sources by 1996. Such a level of control could not be achieved simply through the use of low-sulfur coal. It would require the installation of costly flue gas scrubbers. The cost to retrofit such scrubbers on older utility and industrial plants may not be economically justifiable. Although closing these plants and replacing them with new ones would certainly reduce emissions, the cost would be great and the local economic impact could be severe.

If controls are required widely on utility generating plants, the cost will be passed on to electricity users, and will be reflected in the price of products, in the case of industrial plants. These additional costs will make it more difficult for domestic industries to compete with foreign manufacturers. At a time when the U.S. is struggling to increase its international competitiveness, cost increases of such magnitude should not be imposed unless they clearly result in environmental benefits of a corresponding value. At the present time, it is not possible to conclude that this will be the case; and it appears that it will not be the case under the inflexible approach adopted in the Working Paper.

TITLE III PROVISIONS

The reductions in motor vehicle emissions of HC, NOx, and CO called for in the Working Paper set very aggressive targets for each of these pollutants. Individually these targets would be very difficult to meet. Together, and with the addition of a doubling of the light-duty vehicle (passenger car) useful life (to 10 years/ 100,000 miles) and much tighter Selective Enforcement Audit requirements, which the Working Paper also provides, compliance over our full product line would be impossible. Substantial reductions in mobile source emissions already have been achieved and each successive reduction becomes more and more costly. Thus, even if it were possible to meet the proposed new standards, the added cost would be substantial, and the corresponding air quality improvements would be minor.

In the rush to adopt new standards, it must be remembered that today's new vehicles are not a major cause of the Nation's air quality problems. To the extent that motor vehicles contribute to those problems, older vehicles with less sophisticated, or no, emission control systems, or systems that have been tampered, removed, or improperly maintained are the primary cause. As these vehicles are repaired or replaced, the resulting air quality improvement will be much greater than that resulting from tighter new vehicle standards. As long as this is the case, air quality efforts aimed at new vehicles will be misdirected and ineffective.

Section 301: More Stringent Hydrocarbon Standard

For Light-Duty Vehicles in 1992 It makes little sense to force automobile manufacturers through another round of development of more stringent exhaust emission controls to meet the proposed 0.25 gram per mile (g/mi) HC standard in 1992 when only a small additional air quality benefit can occur. For example, there is little difference in air quality from replacing an older, higher polluting vehicle with either a vehicle meeting the current standard of 0.41 g/mi HC or the proposed standard. Using EPA estimates, when a typical ten year old, 100,000 mile light-duty vehicle, a 1977 passenger car, with a typical "in-use" total (exhaust and evaporative) HC emission value of 6.49 g/mi is replaced by a new vehicle meeting the current 0.41 g/mi standard with total HC emissions of 0.91 g/mi, the immediate emission reduction would be 5.58 g/mi, or 86%. When a late model vehicle meeting the current standard is replaced by a vehicle meeting the proposed 0.25 g/mi standard with total HC emissions of 0.75 g/mi, the reduction would be only 0.16 g/mi. Thus, the reduction from replacing the higher polluting 1977 model is about thirty-five times that resulting from the proposed more stringent standard.

The effect of fleet turnover is well-known and is contained, in a more scientific fashion, in EPA's MOBILE3 emissions model. This model shows that, between 1987 and expiration of the Working Paper's extended deadline in 1992, vehicle replacement under the current standard would reduce passenger car total nonmethane HC emissions 28% while the proposed standard would only add less than 1% more. Between 1987 and 1997, fleet turnover under the current standard would cause a 42% reduction and the proposed standard would add only 2% more. (See Figure 1.)
Based on these referenced values, from an air quality standpoint, there simply is nothing more to be done over the next ten years to reduce the vehicle contribution to HC emissions except to allow turnover of the vehicle fleet to have its effect. Clearly, the most effective way to reduce emissions is to sustain or even speed-up vehicle replacement and not to hinder it. If more stringent controls make new vehicles less attractive in the marketplace, that is, certain models are not available, or they are more costly, have less performance, poorer driveability or fuel economy, etc., replacement could slow down, making the proposed more stringent HC standard counterproductive.

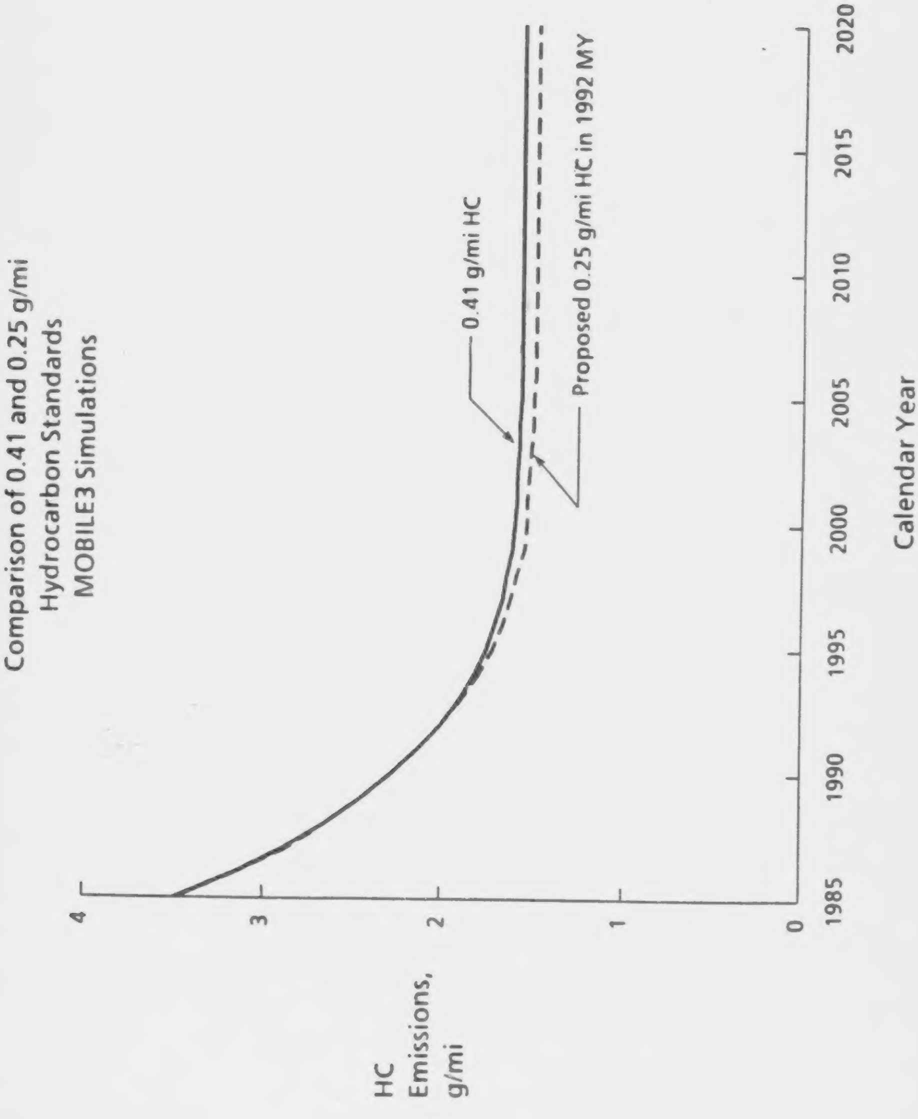
In addition, according to EPA estimates, in 1995, inadequate maintenance and tampering could be responsible for 40% of overall light-duty vehicle HC emissions. (See Table 1.) Both of these effects are beyond the control of manufacturers. Accordingly, shifting the focus of inspection/maintenance programs, to emphasize improved maintenance and discourage tampering could reduce emissions significantly, and lead to much greater improvements in air quality than tightening the new car HC standard.

Table 1
Sources of U.S. Auto Emissions

	Emissions - metric kilotons per year			
	CO		HC	
Calendar Year 1984				
Emissions If Standards Are Met	13,964	(42%)	2,119	(59%)
Manufacturer Related Excess	1,150	(4%)	164	(5%)
Inadequate Maintenance Excess	14,885	(45%)	1,010	(28%)
Tampering Excess	3,047	(9%)	305	(8%)
Total	33,046	(100%)	3,598	(100%)
Calendar Year 1995				
Emissions If Standards Are Met	2,842	(17%)	743	(37%)
Manufacturer Related Excess	2,747	(16%)	460	(23%)
Inadequate Maintenance Excess	8,052	(48%)	432	(22%)
Tampering Excess	3,257	(19%)	369	(18%)
Total	16,898	(100%)	2,004	(100%)

Source: An EPA table presented at a conference sponsored by Inside E.P.A. Weekly Report, September 10-11, 1986.

Figure 1



Comparison of 0.41 and 0.25 g/mi
Hydrocarbon Standards
MOBILE3 Simulations

Section 301: More Stringent Nitrogen Oxide Standards

For Light-Duty Vehicles in 1990 A more stringent nitrogen oxide (NOx) standard is not needed to improve nitrogen dioxide (NO_2) air quality since only a few counties in the Los Angeles area do not currently attain the air quality standard. These counties are expected to comply in the near future. The proposed standard is also not needed to reduce acid rain since cars contribute less than 5% to the acid precursors in the Northeastern U.S. (and an even smaller portion of the environmental damage allegedly caused by acid rain). In fact, a more stringent NOx standard may be counterproductive with regard to ozone formation.

The ozone forming reaction is complex and is both promoted and inhibited by NOx depending upon the atmospheric HC/NOx ratio. A lack of understanding of the promotion/inhibition effect has resulted in disagreements in the scientific community as to the impact of NOx control on ozone formation. This promotion/inhibition effect is becoming more generally accepted and the disagreement is now limited to the impact of further NOx control in various U.S. cities or the location of the point where the reaction crosses over from promotion to inhibition. Based on our understanding of the HC/NOx ratios, in most major U.S. cities, a more stringent NOx standard could offset the lowering of ozone through HC control and thus, could be counterproductive.

Moreover, current emission control technology is not capable of complying with a 0.4 g/mi NOx standard across a full product line in conjunction with the current HC and CO standards.

At the current NOx standard, light-duty vehicle NOx emissions would decrease 20% between 1987 and 1997 due solely to fleet turnover. The NOx standards already promulgated by EPA for 1988 and 1990 light-duty trucks and for heavy-duty engines in both 1990 and 1991 also will lead to further decreases in NOx emissions.

For Heavy-Duty Engines in 1991 There is no heavy-duty diesel engine technology to comply with the proposed 4.0 gram per brake horsepower-hour (g/bhp-h) standard without unacceptable increases in HC and particulate emissions and decreases in engine performance and fuel economy. Such a diesel NOx standard would preclude compliance with the existing HC standard and the fuel economy penalty, an extremely important consideration for these commercial vehicles, could exceed 10%. The future particulate standard of 0.1 g/bhp-h would not be achievable even with sophisticated particulate trap technology, assuming it can be developed.

Regarding gasoline-fueled heavy-duty engines, compliance with a 4.0 g/bhp-h NOx standard using currently available technology would increase HC and CO emissions, decrease fuel economy about 6%, and reduce engine power and durability. Thus, future engines could be far less attractive than older or current engines under the proposed NOx standard, thereby postponing realization of the benefits of fleet turnover.

Although oxidation catalysts are being developed for gasoline-fueled heavy-duty engines, problems with loss of catalyst efficiency due to thermal degradation must still be overcome. Successful development of an efficient catalytic converter system for heavy-duty gasoline-fueled engines would be required to offset the increased HC and CO encountered with a 4.0 g/bhp-h NOx standard.

For Heavy-Duty Engines in 1995 No diesel-fueled engine technology currently exists to permit compliance with a 1.7 g/bhp-h NOx standard. Even compression ignited methanol-fueled engines could not comply with such a standard in conjunction with the existing HC standard. Further, a 1.7 g/bhp-h NOx standard would severely increase the difficulty, even for methanol-fueled engines, of complying with the 0.1 g/bhp-h particulate standard. Only further development and "in-use" experience with these engines will permit an assessment of whether even current standards can be met.

Compliance with a 1.7 g/bhp-h NOx standard with gasoline-fueled heavy-duty engines is just as unsure as it is for compression-ignition (diesel) engines. Oxidation catalysts are just now being developed to meet the HC and CO standards for these engines. Three-way catalysts would be needed at a 1.7 g/bhp-h NOx standard, but they are even more sensitive than oxidation catalysts to losses in efficiency due to thermal degradation. Development and "in-use" experience with three-way catalysts cannot be obtained without sufficient time to evaluate the performance of this technology in heavy-duty applications.

Consequently, the proposed NOx standards could limit the availability of some light-duty vehicles and force heavy-duty diesel engines out of the marketplace. Both of these events could make future replacement vehicles unavailable or at least much less attractive than older and current models, thus slowing down the air quality improvement that otherwise would accompany turnover of the vehicle fleet.

Section 301: More Stringent Light-Duty Truck Standards in 1990

The proposed legislation makes the light-duty truck emission standards more stringent by two routes: (1) defining trucks weighing less than 6,000 lb gross vehicle weight rating (GVWR) as "cars" required to meet car standards and (2) increasing the the stringency of the standards for trucks over 6,000 lb GVWR.

Truck emission levels characteristically are higher than emissions from light-duty vehicles because of differences in vehicle/driveline configurations, higher weights, higher axle ratios, four-wheel drive capability, higher load capacity tires, etc. These differences make meeting the same standard much more difficult for light-duty trucks. Even the best available light-duty vehicle technology, three-way catalysts and closed-loop controlled fuel injection, is limited in its ability to enable trucks to meet more stringent standards. This technology is already used on many gasoline-fueled trucks.

Because of configuration differences and the "full-life" requirement for trucks, the current light-duty truck standards of 0.80 g/mi HC, 10.0 g/mi CO, and 1.2/1.7 g/mi NOx are believed to be equally or, in some cases, even more stringent than the current light-duty vehicles standards of 0.41 g/mi HC, 3.4 g/mi CO, and 1.0 g/mi NOx. Meeting even more stringent standards will require major improvements in emission control performance, and such improvements are not likely.

Additional exhaust gas recirculation (EGR) cannot be used to further reduce NOx from diesel-powered trucks because more EGR will increase HC and particulate emissions. Such increases cannot be accommodatedz with current (or foreseeable) technology.

Section 301: Strategic Metal Requirements for More Stringent Emission Standards

Strategic (precious) metals (platinum, palladium, and rhodium) are required to meet the current emission standards. Future U.S. standards, already on the books, as well as new foreign emission requirements will increase the demand for these metals. The proposed numerically more stringent standards, the 10 year/100,000 mile useful life, and the 90% passing rate for end-of-line tests will exert additional upward pressure on demand.

Just in the last three years, the price of rhodium has tripled (to over $1,200 per ounce), and the price is expected to increase even further as demand increases. Most of the world's scarce supply of precious metal comes from South Africa with the remainder from the Soviet Union. Thus, in addition to the political and social concerns of trading with these countries, any increase in U.S. demand for these metals negatively affects our balance of payments deficit.

Section 301: Onboard Refueling Control in 1991

Based on medical evidence, nationwide control of refueling emissions cannot be justified for health reasons. The only negative evidence consists of findings drawn from animal exposures to "whole" gasoline vapor, not to the type of vapor emitted during refueling. In addition, the tumor formation found in the exposed rats was associated with a protein unique to rats. Thus, on two bases, the results cannot be extrapolated to humans.

Benzene exposure during refueling is minimal because of the small amount of benzene found in refueling emissions and the short time of the exposure. Moreover, there is no scientific evidence linking benzene exposure during refueling to leukemia in humans.

Refueling control does offer some potential to reduce regional ozone nonattainment problems. However, in most areas, the ozone reductions would be small because on average, refueling emissions account for only 2% of the ozone-forming precursors. Since ozone nonattainment is a regional -- not national -- problem, refueling control should be included in regional control strategies, not national strategies. Nationwide controls obviously are not cost effective.

In any event, implementation of both Stage II and onboard controls, as proposed in the Working Paper, would be redundant and wasteful. Resolution of the this refueling issue is best left to EPA, which has authority to address this issue and is currently in the process of proposing regulations.

Section 301: Striking the Phrase, "In the Aggregate"

The Working Paper would curtail California's traditional flexibility to establish and adjust priorities to meet the needs of its citizens. The "in the aggregate" concept has permitted California to accommodate the inherent tradeoffs of mobile source emission control without sacrificing health considerations. It has also permitted California customers to be able to select from a wide variety of vehicles to meet their transportation needs and for the state to have more stringent NOx emission standards.

Under the proposal, California standards would have to be equal to or below federal levels. This change would eliminate California's ability to fashion standards designed to effectively resolve its own unique air quality problems. The inability to make appropriate tradeoffs among pollutants might prevent the State from dealing with its most severe problems in the most efficient manner. It might also lead to adpotion of standards that are not technologically feasible, possibly limiting consumer choice in terms of product availability.

The flexibility afforded California officials in dealing with their unique situation should not be removed by federal legislation.

Section 302: 10 Year/100,000 Mile Useful Life

The current concept of "half-life" recognizes the fact that air quality is influenced by average emissions from the average vehicle. The average "full-life" of a light-duty vehicle is about ten years and about 100,000 miles. Assuming a linear deterioration of emissions performance, the average emissions of a vehicle occur at the midpoint of its average "half-life," or five years and 50,000 miles. Average "full-life" means that half of the vehicles are scrapped before ten years and 100,000 miles. Recognizing this, Congress previously has considered and rejected a "full-life" requirement.

"Full-life" emission standards place a burden upon manufacturers that is beyond their control. As a vehicle ages, the ability of a manufacturer to influence and make allowances for its care and use diminishes. There is no question that maintenance becomes more lax as a vehicle ages and becomes less valuable to the owner. The concept of "drive it till it breaks" becomes more and more evident. A "full-life" requirement could actually result in less vehicle maintenance, since manufacturers, not the vehicle owner, will have to bear the cost of any necessary repairs, even if repairs are needed because of the lack of proper maintenance. This could cause increases in emissions from poorly maintained vehicles with the commensurate degradation of air quality, a result which ironically would frustrate the intended purpose of the "full-life" requirement.

More importantly, changing from "half-life" to "full-life" effectively doubles the stringency of the emission standards.

Section 302: "Proper" Versus "Normal" Maintenance

Although manufacturers' recommended maintenance requirements have been reduced with the use of electronic engine controls and fuel injection, it is just not possible to design a maintenance-free engine or emission control system. Manufacturers must be able to set reliable design requirements based on recommended maintenance practices.

Today's vehicles are extremely complex and need a minimum level of maintenance to provide satisfactory operation. Without proper maintenance, however, engine and emission control performance can suffer. For example, failure to change engine oil or allowing the engine to operate with excessively low oil or low coolant is not proper maintenance and will damage the engine. This damage could cause excessive oil consumption, poisoning the catalyst, and could overwhelm the emission control system with excessive amounts of pollutants.

Failure to change spark plugs until engine misfiring occurs can damage or even melt the catalytic converter. Likewise, the use of only a few tankfuls of leaded gasoline can poison the catalytic converter. Such vehicle mistreatment is beyond the control of the manufacturer.

The Working Paper provides no objective criteria for determining beforehand the level of maintenance that will be considered "normal." Yet, it makes changes in the law that conceivably could require manufacturers to warrant emission control performance under the conditions of little or no customer maintenance, in effect mandating the design of nearly "maintenance-free" vehicles. There is no evidence that this ideal state can ever be achieved. But, even if it could, "maintenance-free" vehicles would be more costly than current vehicles. This most certainly would delay the replacement of older, higher polluting vehicles by new, low emitting vehicles. Since much of the future emission reductions for the "in-use" vehicle fleet will come from vehicle replacement, air quality improvements will be delayed.

Under the current Clean Air Act, EPA has the authority to regulate maintenance recommendations and to restrict the mileage intervals at which a manufacturer can specify required maintenance. Beginning with the 1988 model year, EPA will further limit the proper maintenance that can specified in the owner's manual for emission control purposes. Clearly, EPA is exercising its authority and legislative action is not required.

Section 302: 90% Passing Rate for End-Of-Line Tests

The Working Paper's 90% passing rate for Selective Enforcement Audits (SEAs) would lower the Acceptable Quality Level (AQL) from the current 40% to 10%. The 40% AQL, which was established by EPA when the SEA regulations were promulgated, recognizing the variability inherent in the mass-production process, assures that the average emissions meet the standards. This is a correct and sensible criterion because the atmosphere, in fact, mixes the emissions from all vehicles. Further, air quality projections and calculations of emission reduction requirements for attainment are all based on average emission values.

The proposed change in AQL from 40% to 10% would have the effect of lowering the emission standards by about 33% for certain engine families. This effective increase in SEA stringency is compounded by the proposed increase in useful life. For example, the 33% increase in stringency makes the current 0.41 g/mi HC standard an effective standard of 0.27 g/mi, or the proposed standard of 0.25 g/mi HC a very stringent 0.16 g/mi standard, over a 98% reduction from precontrol levels.

When EPA promulgated the current SEA rules, it rejected a 10% AQL because of manufacturing variability. However, EPA retains the authority to change the AQL if such a change is needed.

Section 302: Idle Test and State Provision To Suspend or Revoke a Certificate of Conformity

There is no need to add a new inspection/maintenance (I/M) type idle test as part of the current Federal Test Procedure (FTP) since the FTP already contains a number of idling events. In addition, idle tests, as currently run as part of state I/M test programs, do not numerically correlate with the FTP.

Some of the poor correlation results from state I/M tests being run under a variety of uncontrolled conditions and therefore, produces variable emission results. Moreover, EPA has never considered I/M tests to be a good way to identify vehicles that are exceeding the emission standards. The tests can identify "gross" emitters, that is, vehicles that have emission rates far in excess of the standards. But they are considerably less able to identify vehicles that only marginally exceed the standards. By the same token, in a significant number of cases, vehicles that would pass the FTP do not pass the I/M tests. Because of this lack of correlation with the FTP, I/M tests are not good predictors of FTP emission values.

Since a certificate of conformity is issued by EPA only after a showing by the manufacturer that the subject class of vehicles has met the requirements of the FTP, including passing the FTP emission standards, less reliable state I/M test results should not be used as a basis for revocation of a certificate of conformity.

Furthermore, it does not make sense to revoke a certificate of conformity based on I/M tests.

Section 302: "Each and Every" Vehicle Must Pass Standards

The proposed requirement does not consider the realities of production and the fact that dimensional and performance tolerances of parts and assemblies exist. Parts and assemblies cannot be made exactly the same at reasonable cost. Because of production variation, and test variability, even seemingly identical vehicles will have varying emission results. Thus, an "each and every" compliance scheme will force tighter production tolerances or a lower emission average so that the vehicle with the highest emissions will still pass the standards.

Such a requirement is unworkable and unneeded since air quality inherently depends on the average and the emissions from an individual vehicle have little effect on air quality. Carrying enforcement of the Working Paper to the extreme would require certification or full FTP emission testing of "each and every" vehicle and not the current engine-family certification scheme.

Also, the Working Paper introduces ambiguities (if not inconsistencies) into the Act. SEAs are proposed to permit 10% of the vehicles to fail. 207(c) recalls are proposed still to be based on a "substantial number" of failing vehicles. Clearly, the "each and every" concept should not be added to the Act. It is unnecessary -- EPA, Congress, and the courts already have agreed that existing law does not permit "averaging" beyond the degree necessary to assure that the emission control program can be administered effectively and efficiently.

TITLE IV PROVISIONS

Under current law, the Administrator of EPA is charged with setting national air quality standards to protect public health and welfare. The current EPA decisionmaking process for meeting this obligation is based on scientific investigations. The Working Paper would substitute political directives in place of EPA's scientific investigations. That is a step in the wrong direction. We believe the current requirement has protected public health and welfare and the establishment of air quality standards should remain in the hands of the Administrator.

Section 402: New Ozone Air Quality Standard

In its preliminary assessment of the scientific and technical literature, the EPA Office of Air Quality Planning and Standards concluded in 1986 that "insufficient quantitative data are currently available to support the basis for a long-term primary standard", but that "...concerns for serious chronic exposure effects suggest a need to set a 1-hr. standard which protects against multiple peaks and elevated chronic exposures."

General Motors concurs with the first part of the EPA statement and feels strongly that the scientific literature contains no satisfactory evidence of any serious chronic effects of exposure to ambient ozone levels at the existing air quality standard. We also believe that no meaningful health effects study has so far indicated a real need for strengthening the ozone air quality standard.

Even advocates of an eight-hour ozone standard admit that eight-hour average ozone concentrations would rarely, if ever, exceed the level of the national standard (0.12 ppm) anywhere in the country. If the eight-hour ozone standard were set at 0.10 ppm, the number of days on which the eight-hour ozone average would exceed this level, without exceeding the current standard, would be limited. For example, in many monitoring stations of the State of New Jersey four events or less per year would be expected. Such a low level of additional exposure could not result in any augmentation of "subchronic" adverse health effects and does not justify any more stringent regulation.

No evidence evaluated in the most recent EPA Criteria document indicates a meaningful effect of exposures to near ambient ozone concentrations except for minor deviations in the measurement of pulmonary mechanics after unusually heavy physical exercise. As noted by the Criteria document the real mechanisms responsible for this effect are "unclear", and "most of the decrements reported in exposures of greatest relevance to standard setting process (<0.3 ppm)" are caused by an "inhibition of maximal inspiration rather than by changes in airway diameter." The Criteria document also noted that a "growing body of experimental evidence suggests the involvement of vagal sensory receptors in modulating the acute responsiveness to ozone." In other words, even these effects are minor, temporary, and compensated for. General Motors feels that these transient symptoms do not qualify as an adverse health effect in the real sense of the Clean Air Act.

These concerns apply also to the unpublished data from EPA's research laboratories in which heavily exercising healthy volunteers were exposed for more than six hours to 0.12 ppm ozone under conditions "that simulated a workday for someone performing heavy manual labor." The exposure resulted in minor but significant changes in some pulmonary function tests. However, there was a broad range of variability among subjects and some volunteers did not react at all. The same subjects were also tested for their airways' reactivity to an inhaled bronchoconstrictive agent. It is important to note that many members of the group which responded to ozone were not among those whose airways were overly sensitive to this agent. This indicates that the subjects with most "susceptible" airways are necessarily not those who show the observed decrements in pulmonary function and suggests that the mechanisms responsible for the measured responses must be other than an "injury" to the respiratory tract.

Regarding the "subchronic human health effects" predicted by some animal experiments after exposure to much higher than ambient concentrations of ozone, our scientists conclude that there is no evidence that mechanisms of injury reported after high ozone concentrations (>0.5 ppm) are indicative of possible similar reactions at low ambient concentrations where most exposure occurs. Indeed, the most recent evidence obtained by the GM Research Laboratories shows that long-term exposures of laboratory animals to low ozone concentrations do not produce any significant fibrotic changes (accumulation of collagen) in the lung; that is, the effect that was predicted from brief exposures to much higher concentrations did not occur after long-term exposures to lower concentrations. Other long-term studies conducted in our laboratories have also shown that unless the day-by-day exposures to ozone are high (>0.5 ppm), the inhalation of ozone produces minimal changes in the lung structure or function and these changes rapidly disappear when the exposure ceases. These experiments seriously call into question the interpretation of other animal studies predicting that repeated exposure to small peaks in ozone concentration can produce significant long-term effects in human lungs.

Section 402: New Nitrogen Dioxide Air Quality Standard

EPA has identified "various limitations and uncertainties that must be considered in interpreting the health effects evidence for nitrogen dioxide." Many of the published papers on animal toxicity of nitrogen dioxide describe changes after exposures to levels which significantly exceed the range of ambient concentrations. Other experiments, particularly those concerning impaired resistance to infection, have not been reproduced. EPA acknowledges that most of the evidence reported from animal studies was obtained at concentrations "well above those permitted in the ambient air by the current annual standards" and that there is at this time no satisfactory method for "quantitatively extrapolating exposure-response results from these animals directly to humans."

General Motors concurs with the position of the EPA that "several factors make it difficult, if not impossible, to identify the minimum nitrogen dioxide level associated with adverse health effects at the present time" and feels strongly in the absence of meaningful evidence to the contrary that no additional short-term standard for nitrogen dioxide is needed to protect the public health.

Section 402: New Carbon Monoxide Air Quality Standard

A strong case can be made that the health risks faced today by most residents in CO nonattainment areas are less significant than previously thought. Indeed, there has been increasing evidence in recent years that the current ambient air quality standard (9 ppm of CO) is considerably more stringent than needed to protect public health.

The controversy over health effects of exposure to various levels of CO centers primarily on data from the laboratory of Aronow which related CO levels to angina attacks. The experimental data resulted in an unsubstantiated claim that levels of carboxyhemoglobin as low as 2% can cause a significant reduction in exercise tolerance in angina patients. Our scientists have played an active role over the years in analyzing these findings and were not alone in finding fault with them. In 1983, a panel of independent scientists was appointed by the EPA to review Dr. Aronow's work. The panel recommended that EPA not rely on Dr. Aronow's data in the standard-setting process. If these data are disregarded, nearly all available scientific evidence indicates that there is no clinically significant adverse health effect from low level CO exposures unless the mean carboxyhemoglobin levels exceed a threshold of 3.5 to 4%. The current CO standard corresponds to a carboxyhemoglobin level of about 1.5%.

In this regard, it is important to note that no significant fraction of the population will reach this threshold level of carboxyhemoglobin even if the existing ambient air quality standard were to be considerably relaxed.

Given the uncertainty in evaluating the risk of current CO levels to public health, the EPA also decided in 1985 not to revise the existing air quality standard but to postpone its review until the time when the ongoing validating studies are completed by the EPA and the Health Effects Institute.

Considering the possible effects of high altitude on CO exposure, the workshop of the National Commission on Air Quality in 1980 did not reach a consensus on the issue of "whether there is sufficient scientific evidence to warrant a Federal high altitude standard at that time, or what the appropriate level might be."

In 1976, the California Air Resources Board (CARB) established a high altitude standard of 6 ppm (eight-hour-average) applicable to the Lake Tahoe Air Basin. However, the reasoning for the standard was based on faulty computations. Scientists from General Motors questioned the calculations and the need for a separate standard at the CARB's public hearing. The state authorities later recognized that no change in the standard was necessary and withdrew the standard.

Today, General Motors continues to emphasize that at the current ambient levels, no separate CO standard is needed for high altitude and that even the most susceptible population group is protected by the existing air quality standard with an adequate margin of safety.

Section 402: New Sulfur Dioxide Air Quality Standard

The scientific evidence on the health effects of sulfur oxides and its implications for the air quality standards was recently summarized and shown to support the conclusion that the existing annual average standard is "entirely adequate," if not overly stringent, to protect public health. Notwithstanding these findings, the EPA document also recommended that, in order to protect against potential short-term peak exposures, the Administrator should consider the adoption of a new, one-hour primary standard for sulfur dioxide (SO_2). This recommendation was based primarily on laboratory studies that found transient respiratory responses in some asthmatics exposed during exercise to 0.4 to 1.0 ppm of SO_2.

However, there was a large variability in the response of the asthmatic patients to SO_2 exposure; some asthmatics showed effects and others did not. In its closure letter to the EPA Administrator, the Clean Air Science Advisory Committee (CASAC) concluded that "the exposure uncertainties associated with 1-hour standard are quite large" and that "the relationships between the frequency of short-term peak exposures and various scenarios of asthmatic responses is not well understood." Given the protection afforded by the current standards and the very limited number of asthmatics living near coal-burning electric power plants, where exposure to SO_2 would be the greatest, the risk associated with short-term peak exposures of asthmatics in the real world is very minimal. Indeed, CASAC did not find "unanimous support for the recommendation that the Administrator consider establishing a new one-hour standard for SO_2 exposures." In view of these uncertainties, it would be prudent to postpone the final decision about the standard until further analyses, currently being conducted by both the EPA and the electric power industry, are completed. We support the position of CASAC that "such analyses have the potential to increase the collective understanding of the relationship between the SO_2 exposures and responses observed in subgroups of the general population."

Section 402: New Acid Aerosol Air Quality Standard

In January 1986, amid continuing scientific disagreement over the scope and significance of acid precipitation, CASAC recommended that EPA conduct a special review of the potential health effects of acid aerosols and consider setting separate standards for the individual components of acid rain. The EPA issue paper on this subject summarized that "the potential for acid aerosols to lead to chronic lung disease seems evident, however the level at which this may be expected to occur is yet undetermined."

A review of the document by a group of scientists from academia concluded that the role of ubiquitous ammonia in neutralization of acid aerosols must be considered in an assessment of the public health risk because ammonia is present in the ambient atmosphere as well as in the exhaled air of all humans. This might be the most probable reason why no clinically significant health effects have been observed in normal human populations at ambient levels of acid aerosols (0 - 5 microgram per cubic meter (ug/m3) with occasional peaks up to 40 ug/m3) and why healthy human volunteers have tolerated in controlled clinical experiments up to 1000 - 2000 ug/m3 without any measurable effects. Only long-term animal experiments with unrealistically high levels of exposure indicated morphological and functional changes that may be consistent with a potential for pulmonary disease.

Accordingly, General Motors concurs with the conclusions of the scientists that additional research is needed to verify or dismiss concerns for potential long-term effects in human populations. We believe that the decision about the need for an ambient air quality standard should be postponed until the potential impact of acid rain on human health is better evaluated.

TITLE V PROVISIONS

Section 501: Definitions

This section dramatically redefines critical terms such as major source and area source. For major sources, not only has the threshold limit been drastically lowered to 25 tons of any combination of listed air contaminants, but the term also includes any source that emits at least 5 tons per year of any single contaminant. Such minute thresholds will, at great expense and little benefit, drag thousands of small businesses and minor sources into the realm of regulatory control.

Furthermore, other sources such as automobiles, which emit or merely have the potential to emit, even trace amounts of the listed chemicals, will be categorized and regulated as "area sources." Current laws more than sufficiently cover the need to control EPA-identified risks of airborne toxic materials from mobile sources. No additional requirements beyond those currently mandated are needed. However, the Working Paper proposes reductions in toxic materials from 1988 mobile source levels of 55% over the ten years following enactment of the provision. Since emission levels from new cars are already extremely low, an additional reduction from current levels, if it were imposed upon new cars, would be unnecessary.

As discussed elsewhere in this document, as new cars replace older cars, nonmethane HC emissions are expected to be reduced about 42% between 1987 and 1997. Using the same EPA model, the reduction for all motor vehicles due to fleet turnover would be 46% over the same years. We believe reductions of this magnitude will automatically control any toxic materials identified as emanating in exhaust and evaporative emissions of motor vehicles.

Section 502: Technology Based Standards

This section requires the administrator to set emission standards for each category of sources that emit substances listed in Section 313 of the Superfund Amendments and Reauthorization Act (SARA) and those published in accordance with Section 104(i)(2)(A) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980. Combined, these lists contain well over 300 chemicals, many of which have not been adequately tested for health effects.

Standards are to be set at the level which will achieve the "maximum degree of reduction in emissions," including zero emissions if possible. Although the bill states that cost, energy, and other non-health factors can be considered, the degree of reduction must meet the most stringent emission level that is achieved in practice by a source in the same category. Unfortunately, this blurs together the accepted definitions of Best Available Control Technology (BACT) and Lowest Achievable Emission Rate (LAER).

Within 18 months, the EPA must establish emission standards for major sources of acrylonitrite, methylene chloride, and the nine substances currently on the "intend-to-list" list. Remaining categories of sources are to be prioritized, with 25% of them having standards promulgated within 3 years, an additional 25% must have standards set within the next 2 years, and standards for remaining sources must be promulgated within the next 5 years. Considering the tremendous number of sources involved, such a limited schedule would allow little time to consider the efficacy and availability of various control technology.

Although a substance may be removed from the list, it must be demonstrated that the substance will not cause any adverse effects on health or the environment. Hence, this bill takes a "guilty until proven innocent" attitude which could prove unnecessarily burdensome for both the agency and industry.

Rather than automatically listing and requiring controls on hundreds of chemical substances, it would be far more appropriate to focus attention on those substances posing the greatest threat to public health. The emission inventory required by SARA will generate a database detailing the type and quantity of emissions, their sources, and their locations. Combined with health assessments and risk analyses, this database will enable the EPA to prioritize and target those chemicals and sources posing significant risks.

Section 503: Health-Based Standards

This section requires the Administrator to set emission standards and identify categories of sources which emit those substances listed under the existing Section 112. Regardless of whether or not sufficient information is available to establish specific emission standards, the Administrator must add substances to the list if they may reasonably be anticipated to cause or contribute to an increase in mortality, or an increase in serious irreversible, or incapacitating reversible illness, or have significant adverse effects on the environment.

Within three years of listing, the Administrator must establish emission standards which "provide an ample margin of safety to protect the public health, unless a more stringent standard is required to protect the environment." Consideration of costs, energy requirements, and technological feasibility is prohibited. Interim standards may be set provided the standard reduces the risk of carcinogenic effects to no more than one in a million for the most exposed individual in the ambient environment.

Although a risk of 1 in a million is commonly used by various agencies, placing such a value directly into the legislation eliminates the flexibility needed by the agency for risk management decisions. EPA Administrator, Lee Thomas, has stated that even with controls, the maximum individual risk posed by coke ovens is greater than one in ten thousand. Thomas estimated that these sources would be required to reduce controlled emissions by more than 99%, which he indicated may not even be technologically feasible. Risk management should be performed by the agency, not Congress.

Section 504: Compliance Schedules

New and modified sources will not be permitted to emit substances listed pursuant to Section 313 of SARA and Section 104 of CERCLA, unless the Administrator ascertains that such emissions will not be in violation of the standard. Existing sources will have a maximum of 3 years from the effective date of the standard in which to achieve compliance. If the Administrator finds it necessary, a 2 year waiver may be granted for an existing source.

Sources emitting probable or possible carcinogens (Section 503), must be in compliance within 2 years after the effective date of the standard. Up to 8 years is allowed for those sources that would experience extraordinary economic hardship.

Such a limited compliance schedule will be burdensome for both the agency and industry. If for some reason, suitable control technology is not available, modification and construction could come to a halt thereby severly disrupting economic growth and stability.

Meanwhile, emissions of hazardous and toxic air pollutants are not being released in uncontrolled fashion. Many of these emissions are being reduced as the result of stringent controls for emissions of criteria pollutants. For example, General Motors has reduced the Volatile Organic Compound (VOC) emissions at one assembly plant by 89% since 1980. Such a dramatic reduction is the combined result of process modifications and installation of state of the art control systems. Due to the competitive nature of this business, such improvements tend to be the rule and not the exception.

Section 507: Prevention of Sudden, Catastrophic Releases

The objective of this section is to prevent the release to air and to minimize the consequences of the accidental release of any substance listed pursuant to Section 302 of SARA. Additions to the list may be made if the substances may be released in concentrations that may reasonably be anticipated to cause acute adverse health effects in humans.

Within 18 months of enactment (or 12 months of listing), each facility containing the threshold quantity of a listed substance must conduct and complete a hazard assessment for each substance present at the facility. As in SARA, assessments must be made available to State, local, and Federal agencies. The Administrator may promulgate design, equipment, work practice, and operational requirements for facilities which manufacture, store, or process any listed substance in amounts greater than the threshold quantity.

This section is redundant and unnecessary. Accidental releases need not be addressed under Section 112 as they are handled sufficiently under SARA. Routine process emissions and episodic releases should be dealt with in entirely separate regulatory forums.

Summary

Title V of the Committee Working Paper represents an extensive and very complex rewrite of Section 112 of the Clean Air Act. EPA is not limited to regulating hazardous or toxic emissions solely under Section 112, it has the ability under Section 111 and the authority to regulate them under the Toxic Substance Control Act, the Resource Recovery and Conservation Act, and now SARA. Furthermore, over 90% of the states either currently have, or are developing, their own air toxics programs. Additional legislation is not warranted at this time as an efficient and effective program could be developed under the existing legislative framework. Therefore, General Motors opposes inclusion of the proposed Title V into the Clean Air Act.

8/18/87

HSIA HALOGENATED SOLVENTS INDUSTRY ALLIANCE
1225 19th Street N.W. Suite 300 Washington D.C. 20036 • (202) 223-5890

August 6, 1987

The Honorable Quentin N. Burdick
Chairman
Senate Committee on Environment and Public Works
458 Dirksen Senate Office Building
Washington, D. C. 20510

Dear Senator Burdick:

The Halogenated Solvents Industry Alliance (HSIA) represents users, distributors, and producers of methylene chloride, perchloroethylene, and trichloroethylene. The many users of these common solvents, and users of the hundreds of other chemicals identified in Title V (Hazardous Air Pollutants) of the proposed amendments to the Clean Air Act (CAA), would be severely and unnecessarily impacted by passage of this proposal.

The proposal would require promulgation of emission standards for major sources of the three solvents mentioned above, and eight other chemicals, within 18 months of the date of enactment. EPA could not take cost or other economic or technological factors into account in establishing these standards. They would be set at a level posing a theoretical cancer risk of no more than one in one million to the most exposed individual in the ambient environment using the methodology in the EPA's Guidelines for Carcinogen Risk Assessment.

The approach taken toward regulating these solvents in Title V is misguided. First, it inappropriately prejudges the results of efforts by EPA and other agencies to assess the health effects of these compounds. Second, it misuses theoretical upper bound limits on risk by transforming those estimates into regulatory limits.

EPA announced its intention to list methylene chloride, perchloroethylene, and trichloroethylene as hazardous air pollutants (HAP's) under the current Section 112 of the CAA in 1985. They are currently under a Toxic Substances Control Act (TSCA) review by an interagency task force, including representatives of EPA and three other federal agencies, for development of coordinated federal regulations. Requiring EPA by law to regulate emissions of these chemicals to excessively stringent levels within 18 months makes all of these efforts to understand the true health effects of these chemicals irrelevant. It is not necessary to take such drastic action. Trichloroethylene and perchloroethylene are already identified as volatile organic compounds (VOC's) under the CAA and are already subject to regulation under State Implementation Plans implementing the National Air Quality Standard for ozone. The most concerned states have initiated air toxics programs addressing emissions of all three chemicals.

The use of a one-in-one-million risk standard for establishing emission levels under Title V poses major problems. This value is based on EPA's unit risk estimates, which represent the upper bound, not a most likely, estimate of human cancer risk, assuming the chemical is in fact a human carcinogen. EPA's plausible upper bound (unit risk) estimate is generated, according to the National Academy of Sciences, from some 50 assumptions that, in each instance, use the worst-case approach among the scientifically plausible options. The net result is a final estimate that vastly overstates risk. For many chemicals, including the three halogenated solvents, EPA has stated that the unit risk estimate represents a "what-if" calculation that is not intended as a regulatory standard. The true risk of ambient exposure for these chemicals, even assuming they pose a carcinogenic risk, is somewhere between this upper bound risk number and zero.

EPA's current use of upper bound risk estimates for chemical evaluation inhibits the Agency's ability to assess the relative risks among the chemicals in question. That is, use of only the upper bound estimates is a highly insensitive method of estimating the real potential for chemical hazard. EPA currently admits that, even using the upper bound estimates, methylene chloride, perchloroethylene, and trichloroethylene have very low potencies as cancer risks. We have no knowledge of the most likely risk, however, from the information the Agency distributes. For example, if ten substances with very similar upper bound risks were to be thoroughly evaluated, one could obtain ten very different risk estimates, all of which would be lower than EPA's upper bound estimates.

The provisions of Title V would impose a massive administrative burden on EPA, particularly in the wake of the SARA legislation passed last year. Title V duplicates many of the requirements of existing statutes (e.g., SARA, TSCA). It also would severely restrict EPA in its ability to regulate chemical exposure by shifting responsibility for evaluating the risk associated with such exposure away from the Agency best equipped to conduct such risk assessment.

Increased public safety is not better served by crafting amendments to the Clean Air Act that are more costly and excessively stringent to the regulated industry. The sweeping changes to current law contemplated in Title V, as proposed, must not be allowed to advance without careful consideration of their implications and a full airing of opinions from all interested parties. We urge you to heed the testimony of EPA Administrator Lee Thomas and others that such large-scale changes to the nation's air pollution law are unnecessary and are counterproductive to the stated intentions of the CAA.

If you have any questions concerning the issues raised in this letter, please feel free to call me at 223-5890. HSIA intends to submit more detailed comments on Title V of the proposed amendments to the Clean Air Act, as well as on Title I (Non-attainment) and Title IV (Ambient Air Quality Standards), in the near future.

Sincerely,

Paul A. Cammer

Paul A. Cammer, Ph.D.
President

cc: Members, Senate Committee on Environment and Public Works
Mr. Lee Thomas, Administrator, U. S. Environmental Protection Agency

HONDA
HONDA NORTH AMERICA, INC.
905 L'ENFANT PLAZA NORTH, S.W.
WASHINGTON, D.C. 20024 (202) 554-1650

July 31, 1987

The Honorable George J. Mitchell
364 Russell Senate Office Bldg.
Washington, D.C. 20510

Dear Senator Mitchell:

We are writing to express our opposition to the motorcycle provision in the draft Senate clean air bill. Honda is the largest producer of motorcycles in the United States and the world.

Of primary concern to us is the fact that the standards necessitate the use of catalysts on motorcycles. The bill presumes that the catalyst technology used on automobiles is transferable to motorcycles. This is not true. In fact, the durability of catalysts for motorcycle use has not been demonstrated. Catalyst durability is very sensitive to the operating environment, the riding habits of the operator, and the maintenance of the machine.

Even assuming that the technology could be developed, we believe that many motorcycle owners will remove the catalyst. As a result, the motorcycles will emit more pollutants than current models which are designed to control emissions without a catalyst. To the extent that this occurs, the overall goal of clean air may be undermined.

Honda agrees with the testimony of EPA Administrator Lee Thomas before the Environmental Protection Subcommittee on July 22, 1987 that the small potential benefits which may result do not justify the motorcycle provision of the draft bill. He noted that motorcycle emissions are already controlled and that further controls are not needed. According to their data, motorcycles account for only 0.3 percent of nationwide VOCs. EPA's statement also points out that there are complex issues related to the cost and feasibility of adding more stringent controls on motorcycles.

Please wear your seat belt and drive safely

The motorcycle industry has already made major efforts to voluntarily reduce their emissions. VOC emissions from motorcycles dropped 67 percent from 1975 to 1985.

Honda is concerned that these issues were not adequately considered in the drafting of the clean air bill. Please call me if you would like further information on Honda's position on the motorcycle provision.

Sincerely,

Toni Harrington

Toni Harrington
Manager, Government
and Public Relations

TH/ef

INGAA

JEROME J. McGRATH
President
1660 L Street, N.W.
Washington, D.C. 20036

JERRY T. [illegible]
Senior Vice President
1660 L Street, N.W.
Washington, D.C. 20036

JOHN H. CHEATHAM, III
Vice President, General Counsel
and Secretary
1660 L Street, N.W.
Washington, D.C. 20036

J. B. RIPPLE
Treasurer
P.O. Box 2521
Houston, Texas 77252

EXECUTIVE COMMITTEE

[illegible]
Chairman of the Board
P.O. Box 1492
El Paso, Texas 79978

BRIAN E. O'NEILL
Vice Chairman
P.O. Box 1396
Houston, Texas 77251

ROBERT C. THOMAS
P.O. Box 2511
Houston, Texas 77001

VERNON T. JONES
P.O. Box 2400
Tulsa, Oklahoma 74102

KENNETH L. LAY
P.O. Box 1188
Houston, Texas 77001

August 31, 1987

The Honorable George J. Mitchell
Chairman, Senate Subcommittee
  on Environmental Protection
458 Senate Dirksen Building
Washington, D.C. 20510

Dear Chairman Mitchell:

Enclosed is a statement on behalf of the Interstate Natural Gas Association of America (INGAA) regarding the proposed Clean Air Standards Attainment Act of 1987, which was reported by the Environmental Protection Subcommittee on July 29.

We appreciate the Subcommittee's willingness to accept statements on the draft working paper at this time. Analyzing legislation as technical and complex as this proposed bill requires a considerable amount of time and we have only recently completed the assessment of its impact on our industry.

As our written statement explains, INGAA opposes the bill's mandatory short-term NO_2 standard and we believe changes are needed to the standards applied to stationary facilities located in the ozone transport regions created by the legislation.

We hope that our concerns can be addressed during mark up of the legislation by the full Committee. INGAA looks forward to working with the Committee and its staff on these important issues.

Sincerely,

Jerome J. McGrath

Jerome J. McGrath
President

Enclosure

cc: Members, Senate Committee on
    Environment and Public Works

STATEMENT OF THE INTERSTATE NATURAL GAS ASSOCIATION OF AMERICA ON THE CLEAN AIR STANDARDS ATTAINMENT ACT OF 1978 SUBMITTED TO THE SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

AUGUST 31, 1987

I. Introduction

The Interstate Natural Gas Association of America (INGAA) is a national trade association representing virtually all of the major interstate natural gas transmission companies operating in the United States. Our member companies are both wholesalers and transporters of natural gas, moving gas from producing areas of the country to distribution companies and end users across the nation. Approximately ninety percent of the natural gas transported and sold in interstate commerce flows through more than 200,000 miles of pipeline owned and operated by INGAA member companies. INGAA appreciates this opportunity to submit comments concerning the Clean Air Standards Attainment Act of 1987.

Natural gas has long been recognized as the most environmentally desirable fossil fuel, producing fewer emissions of NO_2 than coal or oil and producing virtually no SO_2 emissions when burned. Our industry has long pointed out the potential that exists for reducing emissions of such pollutants by substituting natural gas for oil and coal in end use applications.

More recently the industry has funded several research projects aimed at demonstrating the "select" use of natural gas as an emission reduction method. For example, natural gas can be used in coal-fired boilers to "reburn" the products of incomplete combustion, significantly reducing stack emissions. This technology is now being demonstrated in actual utility operations.

In the past, proposed clean air legislation has not always recognized the potential role for natural gas as a pollution control option, but we are pleased this bill does allow for this possibility.

However, two aspects of the legislation reported by the Environmental Protection Subcommittee would create significant problems for the gas pipeline transmission industry. These are the provisions in Section 402 mandating the Environmental Protection Agency (EPA) to set a one-hour NO_2 standard, and the definition of "reasonably available control technology" (RACT) in Section 102.

II. The Short-Term NO2 Standard

A. Protection of Public Health

The Subcommittee bill would add a new subsection 109(f) to the Clean Air Act (Act) requiring that "Not later than four years after the enactment of this subsection, the Administrator shall promulgate an additional national primary ambient air quality standard for nitrogen dioxide [NO_2] concentrations over a period of not more than one-hour that is consistent with subsection (b)."

It is INGAA's position that the processes established under sections 108 and 109 of the existing Clean Air Act should be permitted to proceed without a prejudgment by Congress as to the necessity for specified new ambient standards, particularly the one-hour standard for nitrogen dioxide. The law now provides a deliberate process for the review and evaluation of all available scientific evidence relevant to the setting of ambient air quality standards.

In 1970 the Congress was quite explicit about the procedure to be followed, and the substantive criteria to be met, to determine whether to establish an ambient air quality standard. Specifically:

o Section 108(a)(1) requires the Administrator to list any "air pollutant, emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health and welfare."

o The listing of an air pollutant triggers the requirement of section 108(a) (2) that the Administrator set air quality criteria for such pollutant within 12 months after its listing.

o Criteria must "accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare which may be expected from the presence of such pollutant in the ambient air, in varying quantities." (emphasis added)

o Simultaneously with the issuance of air quality criteria, the Administrator is required by section 108(b) to issue information on air pollution control techniques which are available with respect to a given air pollutant.

o Section 109 of the Clean Air Act provides the standard for health protection which determines the level at which an ambient air quality standard is set. A primary ambient air quality standard must be set at a level, based on criteria developed under section 108(a), requisite to protect the public health with an adequate margin of safety.

o In addition, section 109(d) directs the Administrator to review and revise, as appropriate, established criteria and standards and to promulgate new standards as appropriate, at least every five years. For example, since 1972, five existing standards have been reviewed and revised as necessary. In recent years, EPA Administrator Thomas has reviewed health effects data for carbon monoxide and NO_2, and concluded that additional new standards were not justified by the science at this time. EPA has just promulgated a revised health standard for particulates, and is close to completing a lengthy review of health effects data on sulfur dioxide. An initial review of health data regarding acid aerosols has just been completed by EPA as well. EPA also issued a call for information on health effects of carbon monoxide and nitrogen oxides, for the purpose of revising the air quality criteria for those pollutants (see Federal Register, July 22, 1987, p. 27580).

o Section 109(d) also establishes an independent scientific review committee (known as the Clean Air Science Advisory Committee, or CASAC) appointed by the Administrator, to review existing criteria and standards, to recommend new standards and to give advice as to additional knowledge needed to assess existing standards and the need for new standards. This committee had carried out its charge diligently.

In our view, all of these activities provides substantial evidence that the process established in the 1970 Act is working well.

INGAA supports the underlying principle of protection of public health established by the Clean Air Act. It also supports the establishment of primary ambient air quality standards to achieve that goal, as may be warranted by available scientific evidence. The process of evaluation of health effects information is a dynamic, ongoing activity at the EPA. Its participants are qualified experts in this field, whose charge is to reach conclusions based on the data before them, without regard to issues of the implementation of any given standard. These issues are to be considered under section 110 of the law.

The health standard-setting process was intended by the Congress in 1970 to be removed from technological, political or other nonhealth considerations of any kind. Protection of public health was, and still is, intended to be defined only by substantive health effects information as assessed by experts. This insulation to protect the integrity of the ambient standards is embodied in the series of steps laid out in section 108 and 109 for the setting of standards. The process has been in place, and working, for seventeen years.

Section 402 of the Subcommittee bill therefore proposes a radical change in the standard-setting process. It makes the judgment that a new ambient air quality standard is warranted for nitrogen dioxide as well as five other pollutants. On whose judgment are these conclusions based? On which health effects studies are these conclusions based? The very deliberative administrative process of scientific evaluation and peer review has not reached the same conclusions at this time. As Administrator Thomas stated in his testimony before the Environmental Protection Subcommittee:

> This bill seems to abandon our traditional reliance on sound science...How can I promulgate national standards if, in the opinion of the scientists with whom I am required by law to consult, the available scientific data does not support such standards?

If enacted, section 402 would represent a Congressional conclusion that available scientific evidence warrants the promulgation of six new ambient air quality standards. As such, it would represent the judgment of a political institution as to the health effects of six substances. It is this kind of nonscientific participation in standard-setting that should be, and has been avoided for almost two decades. It is a precedent that strikes at the basic underlying principle of the law. Once established, it can be used to codify scientific conclusions which produce any regulatory result desired by the proponent of the change.

With respect to the specific issue of a short-term NO_2 standard, consideration of health effects information is ongoing. The current Act not only allows EPA to set a short-term NO_2 standard, it includes a strongly worded directive that such a standard must be issued unless EPA concludes there is no significant evidence that exposure to NO_2 on a short-term basis poses a health problem. Section 109(c) of the current law provides:

> The Administrator shall, not later than one year after the date of the enactment of the Clean Air Act Amendments of 1977, promulgate a national primary air quality standard for NO_2 concentrations over a period of not more than 3 hours unless, based on the criteria issued under section 108(c), he finds that there is no significant evidence that such a standard for such a period is requisite to protect public health.

It is important to note that the statutory requirement is phrased in the negative: EPA must promulgate a short-term NO_2 standard unless no significant evidence of adverse health effects is found.

EPA has not ignored this mandate in the law. The Agency spent several years carefully examining the need for a short-term standard, and considered setting a limit in the range of 0.1-0.5 parts per million. While the process took longer than the law anticipated, EPA concluded in 1985 that available scientific evidence did not justify establishment of a short-term NO_2 standard (see Federal Register June 19, 1985, p. 25532). This conclusion was substantiated by the Clean Air Scientific Advisory Committee.

A re-examination of new and existing data regarding short-term health impacts of NO_2 is underway by the CASAC and EPA as contemplated by the law. It is INGAA's view that those bodies are the appropriate decisionmakers. To the extent that INGAA has knowledge of relevant scientific information, it will participate in the administrative process, on those grounds. We urge the Congress to let the process established in the law proceed, so that decisions as to the need for revised or additional standards will be based on scientific judgments.

If through its review EPA determines that a short-term NO_2 standard is required to protect public health, INGAA's member companies will, of course, comply. Compliance would, however, involve extraordinary cost and this is another reason we strenuously object to such a standard being mandated by Congress, rather than being considered through the current medical and scientific process.

B. Cost of Compliance

The financial impact of a short-term NO_2 standard on the natural gas pipeline industry could be severe.

Natural gas is moved through interstate pipelines by large compressor engines located at stations spaced approximately 50 to 90 miles apart. Natural gas compressors are massive engines. For example, a typical 10,000 horsepower engine is 40 feet long, 13 feet tall, 33 feet wide, weighs 400,000 pounds, and costs $4.5 million. About 85 percent of all compressor engines are reciprocating engines and the remainder are turbines. A typical interstate pipeline compressor station might include eight or ten such engines, of varying size, type and age. There are more that 430 different models from 22 manufacturers comprising the almost 6,800 compressor engines of 300 horsepower or larger in use by the industry.

These engines, which compress natural gas to an average of 700-1,000 lbs/sq. inch, push the gas through the pipeline. Except for periods of scheduled maintenance or slack demand, they must be capable of operating continuously. Company employees carefully monitor and maintain these engines. The result is that their useful life is essentially unlimited. Of the compressor engines in operation today, approximately 2,000 or about 30% have been in operation for over 35 years. Successfully maintaining these engines is a major benefit for the ratepayers who consume natural gas.

In the vast majority of cases, these compressor engines are fueled by natural gas taken from the pipeline itself. A certain amount of NOx emissions are a byproduct of burning natural gas. NOx is formed as nitrogen and oxygen are subjected to the high temperatures associated with the combustion of the natural gas/air mixture. Some of this NOx is released as NO_2 and some is converted to NO_2 in the atmosphere. Obviously the industry's compressor stations comply with all air emission standards currently in force, including the annual NO_2 standard. However, particularly during periods of peak operations when demand for gas is highest, virtually all compressor stations emit sufficient quantities of NOx that surrounding areas could be in violation of a one-hour NO_2 standard of the type EPA had under consideration previously.

Reducing compressor station emissions to comply with a stringent short-term NO_2 standard would be an immensely expensive and difficult undertaking. To precisely estimate the cost of compliance requires knowing how much emissions from individual engines must be reduced so that the total emissions from the station do not cause concentrations in the surrounding ambient air which exceed the short-term standard.

In analyzing the impact of this legislation, we have reviewed the available NOx control technology for natural gas compressor engines. Based on this review, we estimate the cost of compliance with a one-hour NO_2 standard at over $4 billion. Attached to this statement is a report by the Gas Research Institute (GRI), the research arm of the gas industry, that summarizes the state of the art in compressor engine emission control technologies. The following discussion summarizes that report.

C. Control Technology

There is now one promising control technology that could be applied to approximately 30% of the reciprocating compressor engines in operation that would allow them to achieve compliance with a short-term standard of the type previously considered. This process involves converting the newer reciprocating engines to what are referred to as "clean burn" engines. Certain parts of these engines are replaced so that the combustion process generates significantly lower emissions of NOx. This conversion is an expensive process. We estimate that converting all of the approximately 2,000 eligible compressor engines would cost approximately $500 million.

For the class of engines which have a combustion process similar to automobile or truck engines, non-selective catalytic reduction, or NSCR, is a proven, available technology. While we believe it can be applied to about 30% of our reciprocating engines, those engines tend to be smaller ones, representing less than 20% of the industry's horsepower. The cost of these conversions is estimated to be $50 million.

There are other emerging but as yet unproven technologies for controlling emissions which may be applicable to certain pipeline compressor engine models. Perhaps the control technology most often discussed for NOx reduction from engines is selective catalytic reduction, or SCR. Despite claims sometimes made by the vendors of SCR systems, no SCR system has been developed for large natural gas compressor engines that has operated free of problems for any substantial period of time. For example, this technology requires ammonia injection, and field testing has shown that ammonia injection systems are unreliable and can result in insufficient or excess ammonia injection into the exhaust stream. Insufficient ammonia injection results in a reduction of catalyst efficiency while excess ammonia results in "breakthrough" that allows raw ammonia, a hazardous substance under the Superfund Amendment and Reauthorization Act, to be emitted into the ambient air. Another problem encountered with this technology is catalyst poisoning or degradation.

GRI has invested substantial sums in attempting to evaluate alternative NOx control technologies, including SCR. The GRI report attached to our statement details the experience of the industry to date with SCR technology and documents the technical problems encountered.

It should also be noted that in addition to the lack of a proven reliable SCR technology for large gas compressor engines, there are physical and operational problems that can render such systems impractical in some compressor applications. For example, in many station layouts, there is not the physical space to handle SCR units, resulting in dramatically higher costs of installation, because the whole station must be redesigned and rebuilt. Also, waste heat recovery units are increasingly being added to compressors to utilize more efficiently the energy of the gas being burned. These units would be incompatible with SCR units. Finally, because compressor stations are often located in remote areas, operation of these stations is increasingly being automated to the point that many no longer have employees permanently on site. Given the serious consequences that can result from failure of an SCR system and the frequent failure of such systems to date, the industry would probably have to forego this practice, again at increased expense.

In summary, even if the problems associated the SCR systems are eventually overcome, the costs of applying the systems will be very significant. If these systems could be made to function successfully and dependably, we estimate that installation would, at a minimum, cost $1.5 billion.

If, as appears quite possible, reliable SCR technology was not available within the time frame in the bill for compliance with a short-term NO_2 standard, about 40% of the industry's reciprocating compressor engines would have to be replaced. These are generally older engines that because of age, type, model or physical configuration cannot be converted or modified to a "clean burn" mode. Replacement costs are estimated at about $3.4 billion. Aside from the huge dollar cost involved, an associated problem is trying to replace hundreds of compressor engines over a short period of time. The industry typically purchases only about a dozen such engines a year and we understand that the manufacturing capacity for such engines is constrained.

A prestratified charge (PSC) technique is another emerging technology for reducing NOx emissions. To date, such a system has been installed on about 15 engines in southern California. The engines are of the same model, made by one manufacturer, and there are only 47 of these engines in use. The applicability of this technology to other types of engines has not been demonstrated and appears to be very limited.

To summarize, INGAA's best information indicates that in view of the very limited reliable NOx control technology that is commercially available, it would cost the natural gas pipeline industry and its consumers over $4 billion to reduce NOx emissions sufficiently to comply with a one-hour NO_2 standard. If the SCR system could be made to operate successfully on a wide range of engines, we estimate the cost could be reduced by nearly half. To put the magnitude of these costs into perspective, in 1985 the total net utility plant value of all major interstate gas pipelines was $20.6 billion.

Again, we urge the Committee not to mandate this standard by law, but to let the provisions of the current Act and the scientific standard setting process govern.

III. Controls on Stationary Sources in Ozone Transport Regions and Nonattainment Areas

Section 101 of the bill amends Section 172 of the Act to set forth additional control technologies that areas in nonattainment must require for emission sources in order to avoid the sanctions that would otherwise result. Most nonattainment areas would have to require that broad classes of stationary sources adopt, at a minimum, reasonably available control technology (RACT). RACT controls would also be applied within the ozone transport regions created by the bill. INGAA believes that the definition of RACT does not allow sufficient consideration of cost and other factors and that RACT should not necessarily be mandated throughout the ozone transport regions created in the legislation.

INGAA estimates that the application of RACT would impose an estimated $1 billion dollar cost on the industry. Our compressor stations located within nonattainment areas themselves, and the hundreds located within ozone transport regions would be affected.

A. Definition of RACT

The controlling language of the definition is the requirement that the standard be based on "the maximum degree of reduction of emissions...that the permitting source determines is achievable for the existing source or class of sources in the area." Although the definition later includes language referencing the degree to which an area is out of compliance and implying that the cost of alternative technologies may be treated as a factor, these considerations are clearly secondary and indeed are not explicitly required to be considered.

In INGAA's view, if controls are to be applied to existing sources, these controls should more closely track the standard in the law for "best available control technology" (BACT). The definition of RACT should be modified to reflect all of the relevant factors for an area in nonattainment, not solely the maximum degree of emission reduction theoretically possible from a source. Rather, the regional commissions (or local authorities) that make the RACT determinations should be required to estimate the amount of emission reductions needed for the area to achieve attainment, review the inventory of sources and the opportunities for emission reductions, consider the cost of compliance, and tailor RACT standards accordingly. The definition should also limit RACT to commercially available and demonstrated retrofit technology. Finally, the provision should make clear that a facility should not be included in a given class if it is unable to utilize the same emission control technology that is contemplated for other facilities in that class.

INGAA notes that this type of flexibility is contained in Title II of the bill, the acid rain provisions. Aside from the requirements specifically placed on utilities, the bill calls for a reduction in NOx emissions of four million tons by 1996, but each state can choose the controls to be applied and the sources to be covered in order to reach this goal. This is the sort of flexibility that should be incorporated into the RACT definition of Title I.

B. Classes of Sources

As we have previously indicated, even within the relatively narrow category of main line natural gas compressor engines, there are significant physical and mechanical differences that affect the feasibility of retrofitting this universe of engines with a specific control technology. Yet our industry's experience with permitting agencies is that they tend to create classifications of engines that are much broader than pipeline compressors. For example, current law contains the notion of a "lowest achievable emission rate" (LAER) that applies to new facilities in nonattainment areas. For purposes of determining a LAER requirement, permitting agencies have tended to group all natural gas-fired engines together as a single class. The result is that an emission rate is established based on the performance of one type of engine that is not realistic or appropriate for other engine types.

This presents difficulties now when pipeline companies seek permits for new facilities. If the same approach is applied in determining a RACT standard for existing facilities, it will result in standards that are unrealistic and possibly unattainable with available technology.

C. Threshold for RACT

As a final point, section 102 of the bill adds several new or modified definitions to the law, including a change in the definition of a major stationary source. Previously a major stationary source in a nonattainment area was one emitting over 100 tons/year of a pollutant. The bill would reduce that number to 25 tons/year.

INGAA questions the desirability of reducing this threshold. Sweeping these previously unregulated sources (those emiting 25-100 tons/year) under the Act will increase the burden both on our member companies and on the permitting authorities with questionable air quality benefit. For our industry, such a reduction would reduce the size of regulated engines to approximately 250 hp from approximately 1,000 hp. These small horsepower units are utilized for many purposes, including the production of natural gas from low pressure natural gas reservoirs. The mandatory imposition of expensive NOx emission control equipment on these small engines could make such production uneconomical. We strongly recommend that the existing threshold of 100 tons be retained.

IV. Conclusion

We are aware that it is an exceedingly difficult task to structure a clean air statute that achieves the goal of clean, healthy air while being sensitive to the costs imposed on the public and avoiding unnecessary or excessive regulation. We appreciate the efforts of the Subcommittee to accomplish this task. Our review of the legislation pending before the Committee has been limited to those areas of the bill that INGAA believes are most unnecessary, unworkable and excessively burdensome. There are other portions of the bill, such as the strict schedule for emission reductions in long term nonattainment areas and the fee emissions provisions, which are also a concern to us.

Again, INGAA appreciates the opportunity to place its views regarding the Clean Air Standards Attainment Act on the record. INGAA hopes to work with Committee Members and staff on the legislation as the markup process moves forward.

MERCK & CO., INC.
1615 L STREET, N.W., SUITE 1320
WASHINGTON, D.C. 20036

JANIE A. KINNEY
ASSISTANT COUNSEL
GOVERNMENT RELATIONS

(202) 833-8205

August 31, 1987

The Honorable George Mitchell
Chairman, Subcommittee on Environmental Protection
Committee on Environment and Public Works
United States Senate
415 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Mr. Chairman:

Enclosed are comments of Merck & Co., Inc., on the amendments to the Clean Air Act as proposed in the Committee Working Paper. We would appreciate it if these comments would be included in the Committee's record on the legislation.

Sincerely Yours,

Janie Kinney

Janie A. Kinney

0331j/jak

Enclosure

Comments of Merck & Co., Inc. on the Committee Working Paper,
Clean Air Act Amendments

Submitted to the Subcommittee on Environmental Protection
Committee on Environment and Public Works
U.S. Senate

Merck & Co., Inc. develops, manufactures and markets prescription pharmaceuticals. Merck is a research-oriented high technology company. In 1987 we will spend more than half a billion dollars on research and development aimed at discovering new therapies to prevent or treat major diseases more effectively. In just the last year and a half, Merck's research efforts have culminated in the introduction of five significant new drugs: the most powerful multipurpose antibiotic available in the U.S. today, the first genetically engineered vaccine, and new treatments for hypertension, ulcers and urinary tract infections. We are currently awaiting FDA approval of a major new drug to lower serum cholesterol. This drug will provide physicians with an important new weapon in the fight against coronary heart disease, the major killer in the United States today.

Merck is submitting these comments on Title V of the Committee Working Paper because of our concern about its potential effect on our ability to bring to market new human and animal drugs, agricultural products, and other specialty chemicals as well as our ability to continue to manufacture existing products.

Title V, under new section 112(b), designates over 300 chemicals as automatic candidates for regulation under section 112 of the Clean Air Act. Even though the health effects of many of these substances have yet to be assessed, Title V mandates that the most stringent emission controls achievable be adopted for these substances. Adoption of controls can be avoided only by demonstrating that there is complete, adequate and valid data available to establish that emissions of the substance will not cause any adverse effect on health or the environment. Even a small gap in data or a question about any minor environmental effect will require controls at the maximum achievable level. Consequently, the cost of complying with the control requirements will be totally out of proportion to the potential public health and environmental benefit.

It simply makes no sense to require industry to adopt the most stringent controls available for an air pollutant that may cause any adverse environmental or human health effect, regardless of how insignificant the effect may be. Suppose, for example, that the environmental effect was that it reduced mosquito population. Should such an emission be subject to the most stringent controls available? Given both industry and EPA's limited resources, the level of control required must bear some relationship to the level of risk. The public is the ultimate loser in any program that dilutes our ability and EPA's ability to address the most serious problems.

Certain of the chemicals designated for regulation by Title V are integral to our pharmaceutical manufacturing operations. For the most part, these chemicals are used to purify drugs. Our air emissions of these chemicals are already extensively regulated under the Federal v.o.c. control technology guidelines by the States in which we are located. Approximately 80% of our plants already have applied the Best Available Control Technology to substances such as those expected to be regulated under the new section 112(b). Additional regulation cannot be justified without assessments of the health risk presented by the substance.

The potential for over regulation does not end with the 300-plus substances designated in the legislation. The standards for adding additional substances is so low as to be virtually nonexistent, while the level of emission controls required to be adopted is the maximum achievable. The lack of any meaningful criteria for adding other substances to the list to be regulated creates major problems for our long range planning. It is not unusual for us to spend millions of dollars to develop a process to manufacture a new drug. Quite naturally, we try to avoid using chemicals that are likely to require regulation by EPA. Under the criteria in the bill, we would not be able to predict with any certainty that a chemical might not be regulated in the future even though analysis had shown little risk to human health or the environment.

The potential for over-regulation also exists for the substances to be regulated under the health-based standards. New section 112(c) mandates that the Administrator establish a final control standard which in many instances will require sources to cut emissions to zero. A stringent control level for truly hazardous emissions is certainly warranted, but even here over-regulation may result unless the Administrator is given some discretion to determine the appropriate level of controls.

The dilemma the Administrator may face if some flexibility is not permitted can be illustrated using one of our products, PRIMAXIN, a life-saving broad spectrum antibiotic. It is the most potent multipurpose antibiotic available in the U.S. The manufacturing process is a highly complicated 15-step chemical synthesis. Methylene chloride, a potential candidate for regulation as a hazardous air pollutant under new section 112(c), is essential to five of these steps. Under the bill, the Administrator would have to set a final standard that prohibits emissions of methylene chloride. We do not believe it is possible to achieve a zero emission level for this highly volatile chemical. Our only alternative then would be to substitute another chemical for methylene chloride in the process. When the PRIMAXIN manufacturing process was developed, we looked for an alternative to methylene chloride because we knew it was under study by EPA. We were unable to identify any alternative. If the Administrator has no flexibility and we cannot find a substitute, presumably we would have to stop manufacturing PRIMAXIN. It would be ironic if we had to stop manufacturing a product that may save thousands of lives simply to protect the potentially most exposed person.

Because Title V sets up such a massive regulatory program, it presents some very practical implementation problems that could have serious implications for us. Once standards are in place, Title V requires all existing and new sources to be permitted by EPA. Given the hundreds of substances targeted for regulation, this could result in EPA being required to process hundreds of thousands of permits in a single year, a task we think is totally infeasible unless EPA's resources are increased severalfold. Failure by EPA to issue the permits in a timely manner could delay our ability to initiate the new manufacturing process necessary to manufacture a new product. For example, Merck is currently awaiting FDA approval of a major new cholesterol-lowering drug. If this legislation were on the books, our ability to get this life-saving new drug to market could be jeopardized simply because EPA did not have adequate resources to process permit applications, even though our manufacturing operations would be in total compliance with the regulatory requirements. The potential disruption to industry and the drain on EPA resources from such a permitting system far outweigh any marginal benefit. This is particularly so when a self-certification program could work equally well to assure EPA that sources were in compliance with the regulations.

In order to prevent sudden releases of acutely toxic chemicals, new section 112(g) gives the Administrator sweeping power to establish design, equipment, work practice and operational requirements. In effect, the Administrator would have the authority to tell us how to operate our facilities. This is particularly troublesome for pharmaceutical manufacturers since any mandated change in our process could require us to amend our new drug approval applications at FDA, which in turn could cause delays or cessations in manufacturing operations. Moreover, the imposition of such requirements could interfere with our ability to develop more efficient and safer manufacturing processes. The proponents of the legislation have failed to show the need for such an unprecedented intrusion into the operations of manufacturing facilities.

These are just a few examples of the many problems we see with Title V. We understand Congressional concern that not enough is being done now under Section 112 to adequately protect the public from hazardous air pollutants. In its attempt to improve the situation, however, Congress should keep in mind that the level of regulation must bear some relation to the level of hazard. We all lose if Congress enacts an unrealistic, unworkable and unnecessary program.

0325j

8/26/87

MIC
MOTORCYCLE INDUSTRY COUNCIL, INC.

Government Relations Office
Washington, D.C.

June 24, 1987

Honorable George J. Mitchell
Chairman
Senate Subcommittee on Environmental
Protection
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

The enclosed statement of the Motorcycle Industry Council Inc., a not for profit trade association representing manufacturers and distributors of motorcycles, is respectfully submitted for inclusion in the hearing record of S. 1351.

We believe the Subcommittee needs to give further consideration to the motorcycle provisions before taking action. We were not afforded prior opportunity to make representations in this regard and the bill as written contains major adverse implications for our industry.

Thank you for your consideration of this request.

Sincerely,

Melvin R. Stahl
Melvin R. Stahl
Vice President
Government Relations

MRS/pmh

Enclosure

1235 Jefferson Davis Hwy., Suite 1410 • Arlington, VA 22202 • (703) 521-0444

MIC
MOTORCYCLE INDUSTRY COUNCIL, INC.

Government Relations Office
Washington, D.C.

STATEMENT OF

THE MOTORCYCLE INDUSTRY COUNCIL, INC.

BEFORE THE

SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON ENVIRONMENTAL PROTECTION

JUNE 16, 1987

1235 Jefferson Davis Hwy., Suite 1410 • Arlington, VA 22202 • (703) 521-0444

Mr. Chairman, members of the Subcommittee, I am Melvin R. Stahl, Vice President Government Relations, Motorcycle Industry Council, Inc. I appreciate this opportunity to express our views on Senate Bill 1351, Clean Air Standards Attainment Act of 1987.

The Motorcycle Industry Council, on behalf of its member companies who manufacture and distribute approximately 92% of the motorcycles sold in the United States, requests that the provision of S. 1351 applicable to exhaust and evaporative emissions from motorcycles and motorcycle engines manufactured during and after model year 1992 be removed from consideration. The provision requires that regulations contain standards that provide that such emissions may not exceed levels equivalent to those applicable to light-duty vehicles. Such a requirement is unnecessary, and unachievable for most motorcycles with existing or forseeable technology, and to the extent achievable, it will be only at an unacceptable performance and cost penalty to the consuming public.

On October 22, 1975, the EPA published a Notice of Proposed Rulemaking (NPRM) for the control of exhaust and crankcase emissions from new motorcycles. The NPRM contained proposed emission standards for 1978 and 1979 model year motorcycles of 5 g/km (HC) for engine displacements less than 170cc, 5 to 14 g/km for displacements between 170 and 750cc and 14 g/km above 750cc. (CO) and (NO_x) standards proposed were 1.7 g/km and 1.2 g/km respectively. For model year 1980 and later, it was proposed that motorcycles be controlled to the ultimate light-duty vehicle standards (statutory standards).

The Environmental Protection Agency, in promulgating the final rule, stated "the 1978 standards were achievable, but that implementation of the statutory standards was not technically feasible as early as 1980 and that control to that level would not be cost effective." The NO_x standard was also deleted because "an air quality analysis indicates that the motorcycle contribution to motor vehicle NO_x emissions is negligible, being less than one half of one percent in 1990."

The factors considered by the EPA in arriving at these conclusions remain unchanged today, except that motorcycle impact is even less significant than the projections upon which the need for any regulation was based. For example, the EPA total motorcycle emissions was based on motorcycle population estimates of 7.6 million registered vehicles in 1980 and 12.3 million by 1990. In reality there were 5.8 million motorcycles in use in 1980 and 1990 is estimated to be approximately 3.8 million, less than 1/3 of the earlier projections. (Attachment 1)

The Council on Wage and Price Stability also reviewed the proposed regulation and concluded the following: "Substantial evidence, based on EPA's own data, that the proposed uniform standard would not be as cost-effective for motorcycles as the equivalent standards have been for automobiles and other pollution sources; and substantial evidence that motorcycle emissions are not now and would not become a problem sufficient to require nationwide regulation in the public interest." It is our belief that this early critique is still valid.

Motorcycles have been and continue to be a negligible source of air pollution. Based on the EPA's 1985 estimates, on-highway motorcycles contributed less than three tenths of one percent of all the volatile organic compound (VOC) emissions from all sources, and less than one percent of all transportation VOC emissions. In comparison, passenger cars and trucks accounted for 28% of all VOC emissions in 1985. The relative contribution of CO emissions from motorcycles was even less than VOC emissions in 1985.

Even though motorcycles contributed less than 1% of all VOC emissions before controls, major reductions in motorcycle emissions have been achieved since 1975. From an uncontrolled level in 1975 to 1985, VOC emissions from motorcycles had already been reduced 67%, based on EPA estimates. This compares with only a 7% reduction for all sources. According to EPA estimates, VOC emissions from sources other than highway vehicles, particularly stationary fuel-combustion sources, have actually increased 11% from 1975 to 1985. (Attachment 2)

Since 1980, motorcycle emission levels have been certified below the HC and CO EPA standards. This decline in certification levels has occurred, even though the standards remained at that level. However, further reductions from current certification levels will not be possible unless significant breakthroughs in engine technology occur and such breakthroughs are not anticipated in the forseeable future.

Additional motorcycle VOC emissions reductions have occurred since 1985, as a result of unfavorable market forces. On-highway motorcycle new registrations declined 41% from 1975 to 1985, and another 17% from 1985 to 1986. An additional decline of 17% has been reported for the first four months of 1987. (Attachment 3)

Motorcycles are such small contributors to mobile source emissions and an infinitesimal part of emissions from all sources when motorcycle use patterns are considered, that no measurable air quality improvement would be realized by further reducing the motorcycle standards. It is even arguable that removal of the entire motorcycle fleet would not be detected when measuring for ambient air quality.

Although motorcycles and light-duty vehicles are both equipped with gasoline-fueled, spark ignition, four-stroke-cycle engines, there is little other similarity with regard to exhaust emissions and control. Many models of motorcycles are air cooled and the number of cylinders may vary from one to six. Engine displacements currently vary from 50cc to 1400cc and motorcycle engines generally operate at twice the engine speeds of light-duty vehicle engines. Vehicle weight may vary from less than 200 lbs. to a maximum allowed of 1499 lbs.

Motorcycle design is also unique in that there is no engine compartment, floor pan, trunk, or other area to accommodate or shield various components and devices as there is in an automobile. Motorcycles are used differently and have a significantly different "useful life." Motorcycles are sold in much smaller numbers and within these small numbers there are manufacturers who sell less than 10,000 units per year.

The EPA recognized these very material differences between the motorcycle and light-duty vehicle when it established similar but different standards and testing procedures for motorcycles. The initial motorcycle standards were displacement dependent. Motorcycles are divided into 3 classes based on engine displacement. Useful life is 5 years or 12,000 km for class one, 5 years or 18,000 km for class two and 5 years or 30,000 km for class three. The certification test driving cycle is different and certain certification requirements vary for small volume manufacturers.

Current emission control systems are simple and durable (engine modification and air injection). The result is stable emissions performance over the life of the motorcycle. Generally, HC emissions remain fairly constant over the life of the motorcycle, and CO emissions actually decrease. The more complex the emission control system, the greater the likelihood that higher deterioration rates for in-use vehicles will occur, as experience with passenger cars and light-duty trucks indicates.

To meet the proposed standards, catalysts would be needed on all models. Even with catalysts, many models would not be able to comply. To date, manufacturers have not been able to demonstrate good catalyst durability under all conditions that can be encountered during normal operation. Although favorable results have been obtained for laboratory dynamometer testing, durability is very sensitive to the operating environment, the riding habits of the operator, and maintenance of the machine. Malfunctions (such as misfiring) or improper use (such as overuse of the choke) can lead to catalyst failure.

For catalyst-equipped motorcycles, HC and CO emissions deteriorate more than the stable emissions of current motorcycles. HC and CO can increase more than two-fold during the motorcycle's useful life, even with the vehicle properly maintained.

Base emissions for catalyst vehicles are higher than current motorcycles. Tampering (catalyst removal) or catalyst failure causes a drastic emissions increase. Even a modest tampering rate for catalyst motorcycles could negate the intended air quality benefit of the proposed standards.

There would be no way to control tampering without motorcycle inspection and maintanance programs (I & M). Although the EPA has developed "short tests" for automobile I & M compliance testing, none of these tests is appropriate for motorcycles. Currently, only the Federal Test Procedure, which cannot be performed practically at state inspection stations, can be used to determine compliance with Federal motorcycle exhaust emission standards.

In order to implement an emission inspection program for motorcycles, a suitable short test procedure must be developed which can identify vehicles that would not meet the Federal standard. Additional difficulties will be encountered in identifying which model year motorcycles are to be inspected and then establishing a reasonable pass-fail criteria for them, since motorcycles have only been subject to EPA emissions standards since 1978. Motorcycle usage is at its peak during the first year of ownership and vehicle miles traveled decline rapidly in subsequent years.

Motorcycles represent about 2% of the total motor vehicles registered. They accumulate approximately ½ of 1% of the total vehicle miles traveled on public roads by all motor vehicles; and the greatest mileage accumulation occurs on weekends when emissions from other mobile sources are at a minimum.

The costs incurred in establishing a program for motorcycles must be weighed against the improvement in air quality that might be achieved.

The states thus far, with the exception of pilot programs in the Phoenix-Tucson area and Portland, Oregon, have determined that, since the impact on air quality resulting from the inclusion of motorcycles in I & M programs will be slight, motorcycle I & M has no cost benefit and is unnecessary.

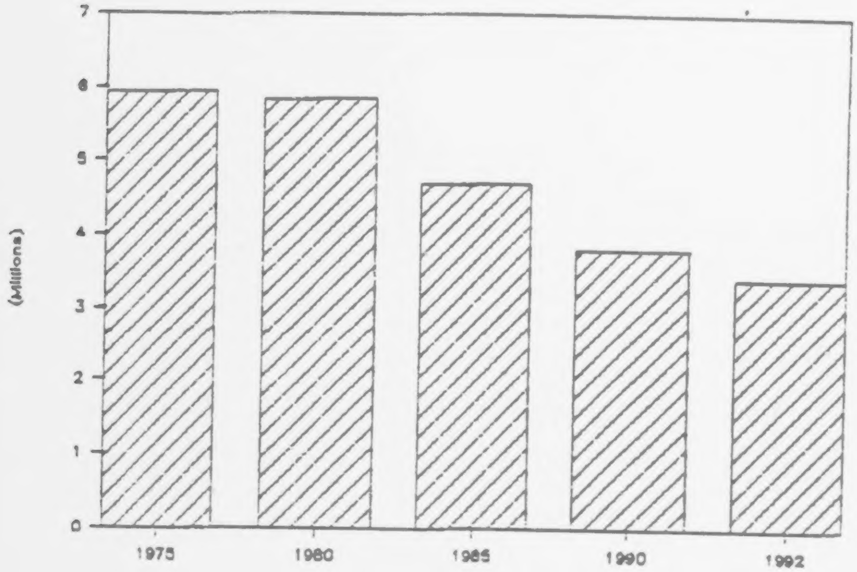
The motocycle industry shares the Subcommittee's concerns for the environment and believes we are continuing to do our share. In an action without precedent, this industry in 1973 specifically asked the EPA to regulate our products as an alternative to the continued failure of agreement on or acceptance of meaningful transportation control strategies. The motorcycle industry is regulated and is complying, although not without difficult and continuing burdens that are particularly pressing on small manufacturers.

We ask the Congress, in addressing non-attainment, to focus on sources that are not regulated at this time rather than impose further reductions that very well may not be achievable, on a currently regulated, fully complying source. Again we ask that the provision in S. 1351 requiring motorcycles to comply with light-duty vehicle regulations be removed from consideration.

Thank you.

Attachment 1

ESTIMATED ON-HIGHWAY MOTORCYCLE POPULATION
1975 - 1992



1975	5,935,000
1980	5,835,000
1985	4,690,000
1990	3,800,000
1992	3,600,000

Source: 1975 - Survey of Motorcycle Ownership, Usage & Maintenance, conducted for the Motorcycle Industry Council by Gallup Organization, Princeton, New Jersey, January 1975.

1980 &
1985 - 1980 and 1985 Survey of Motorcycle Ownership and Usage, conducted for the Motorcycle Industry Council by Burke Marketing Research, Inc., Cincinnati, Ohio, April 1981 and February 1986.

1990 &
1992 - Estimated based on the average annual decline from 1980 to 1985 (229,000), adjusted to a slower rate of decline of 178,000 for 1986 to 1990 and 100,000 for 1991 and 1992.

Attachment 2

Estimated VOC Emissions Nationwide

1975 vs. 1985

	1975		1985		% Change
	Gigagrams/ Year	% of Total	Gigagrams/ Year	% of Total	Gigagrams/Yr 75 vs. 85
All Sources	22,800	100.00%	21,300	100.00%	- 6.6%
On-Highway Motorcycles	180	0.79%	60	0.28%	- 66.7%
Passenger Cars & Trucks	8,770	38.46%	5,938	27.88%	- 32.3%
All Other Sources	13,850	60.75%	15,302	71.84%	+ 10.5%

Estimated CO Emissions Nationwide

1975 vs. 1985

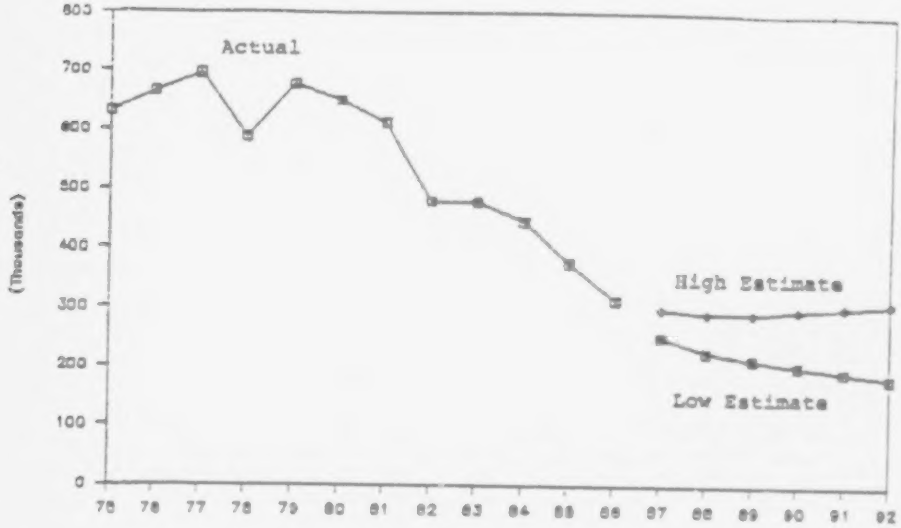
	1975		1985		% Change
	Gigagrams/ Year	% of Total	Gigagrams/ Year	% of Total	Gigagrams/Yr 75 vs. 85
All Sources	81,000	100.00%	67,500	100.00%	- 16.7%
On-Highway Motorcycles	510	0.63%	160	0.24%	- 68.6%
Passenger Cars & Trucks	53,650	66.23%	40,577	60.11%	- 24.4%
All Other Sources	26,840	33.14%	26,763	39.65%	- 0.3%

Gigagram = Billion grams

Source: National Air Pollutant Emission Estimates, 1970 - 1985,
U.S. Enviromental Protection Agency, EPA-450/4-86-018.

Attachment 3

On-Highway New Motorcycle Registrations
1975 - 1992



	Actual	% Change
1975	631,875	
1976	664,436	+ 5.0%
1977	694,296	+ 4.0%
1978	586,799	- 15.0%
1979	674,574	+ 15.0%
1980	647,605	- 4.0%
1981	610,034	- 6.0%
1982	478,516	- 22.0%
1983	477,451	0.0%
1984	444,451	- 7.0%
1985	374,966	- 16.0%
1986	312,821	- 17.0%

	Low Estimate	% Change	High Estimate	% Change
1987 est.	250,300	- 20.0%	297,200	- 5.0%
1988 est.	225,200	- 10.0%	291,200	- 2.0%
1989 est.	214,000	- 5.0%	291,200	0.0%
1990 est.	203,300	- 5.0%	297,100	+ 2.0%
1991 est.	193,100	- 5.0%	303,000	+ 2.0%
1992 est.	183,500	- 5.0%	309,100	+ 2.0%

Source: New Motorcycle Registrations, R.L. Polk & Company, Detroit, Michigan.
Motorcycles under 50cc excluded.

NATIONAL
ASSOCIATION
of
COUNTIES

440 First St NW, Washington, DC 20001
202/393-6226

August 28, 1987

Senator George J. Mitchell
Chairman
Subcommittee on Environmental Protection
Senate Committee on Environment and Public Works
SD-458 Dirksen Senate Office Building
Washington, D. C. 20510

Dear Senator Mitchell:

On behalf of the National Association of Counties representing the nations 3,100 county governments, we appreciate the opportunity to comment on the clean air legislation that is presently being considered by your committee.

First of all, we certainly appreciate the efforts of the Subcommittee on Environmental Protection and the full Environment and Public Works Committee to address, in a timely fashion, the major problem of widespread non-attainment of the Clean Air Act standards for ozone and carbon monoxide. The National Association of Counties shares your concern that the problem of non-attainment is not to be taken lightly and should not be dealt with simply by extending the deadline yet again. We agree with you, and with other organizations representing states, local governments, and air administrators, that along with a change in the deadlines the law must outline a new program that will accelerate the progress that has already been made toward nationwide attainment.

At our 52nd annual national conference last month, the full NACo membership adopted a resolution on the impending Clean Air Act deadlines. First, we reiterated our endorsement of sanctions for areas failing to make the good faith effort. Secondly, this resolution calls for an extension of the December 31st deadline only for counties in good faith, and the adoption of a sensible and orderly long-range strategy for air quality improvements. As mentioned in the resolution, these would include 1) appropriate measures and procedures (including positive and financial incentives) to insure continued progress toward attainment; 2) development of a more effective control strategy with attention to regional transport issues; and 3) sanctions on those entities failing to submit implementation plans or failing to implement the requirements of those plans.

I am attaching a copy of the entire resolution for the Subcomittee's information.

The bill that you have been considering contains some of the approaches that we support. It provides for different treatment for different levels of non-attainment. It provides for the inclusion of regional transport considerations and control strategies. It requires the federal government to promulgate controls for certain products that are in national use, to publish control technique guidelines (CTGs) for currently unregulated processes, and to develop and adopt national standards to reduce evaporative emissions, to reduce vehicular emissions, and to reduce the allowable level of gasoline volatility. It also calls for a significant tightening of the motor vehicle testing and certification process.

However, we believe that the Committee Working Paper contains some very serious flaws that should be addressed in the final legislative process:

o First of all, we are very concerned over the imposition of sanctions for areas unable to attain the ambient air quality standards by the various extended deadline dates for which they qualify. While we believe that sanctions are appropriate for areas failing to undertake a good faith implementation of the law, we do not think that it is appropriate to apply sanctions to those who have done all that they are required to do and still have not reached attainment. Experience has shown that we have little reason to have confidence in existing modeling techniques which purport to predict how emission reductions translate into ambient air quality improvements. Under these circumstances, we consider it to be unfair to sanction those for whom the adoption of mandated controls has proven to be an insufficient solution. In a sense, it is like punishing the patient because the prescribed antibiotic has not cured his ailment within a specified period.

In addition, some of the sanctions, like the prohibition of additional sewer hookups, are contrary to the goals of other environmental statutes (e.g. the Clean Water Act) and will only exacerbate the overall level of pollution.

o Second, we believe that the provisions pertaining to specific source reductions--particularly stationary source reductions--could unfairly penalize those sources that have already installed significant levels of controls. In addition these requirements may not be cost-effective. Surely, it must be possible to devise a reasonable method for giving credit to those who have already installed controls, even prior to 1982.

o Third, 3-year areas have the option, and 5-year areas the mandate to comply with the provisions with respect to alternative fuels. This presupposes the existence of an industry to produce and distribute those fuels and automobiles which can use them. The fact of the matter is that neither the fuels nor the cars are generally available. To expect the 3-and 5-year areas to meet this requirement is unrealistic. We agree that alternative fuels have great potential for reducing mobile source emissions, but we do not believe that we should be held accountable for adoption of a near-term policy that relies upon something that does not yet exist.

o Four, we oppose the imposition of date-certain deadlines on states and local governments when the Environmental Protection Agency, on whose actions and rule-making authority we will often be dependent, is subject to a different set of deadlines. The time periods and deadlines imposed on states and local governments must be consistent with those required of the EPA.

We appreciate your leadership and your timely recognition of the problems that will result from a failure to extend the ambient air quality deadlines beyond December 31, 1987. While we disagree on some of the important specifics, we look forward to working with you and the other members of the Senate Environment and Public Works Committee to address, in a constructive fashion, what we perceive to be the bill's shortcomings. Please be assured that we agree that the adoption of tough measures to clean up our air is needed. I am certain that our mutual priority is to work together towards a time-certain (in the near future) when we can guarantee clean, breathable air for every man, woman, and child in America.

Sincerely,

John P. Thomas

John P. Thomas
Executive Director

JPT:bp
Enclosure

NATIONAL
ASSOCIATION
of
COUNTIES

440 First St. NW, Washington, DC 20001
202/393-6226

ENVIRONMENT AND LAND USE STEERING COMMITTEE
RESOLUTION ON
CLEAN AIR ACT DEADLINES

WHEREAS, the National Association of Counties has given strong support to the Clean Air Act as a vital tool in achieving national air quality goals; and

WHEREAS, the National Association of Counties has endorsed the use of sanctions for areas failing to make a good faith effort to attain ambient air quality standards within the deadlines set forth in the Act; and

WHEREAS, there were 61.3 million persons living in counties which were not in compliance with carbon monoxide standards in 1984 (based on 1980 population) and 79.2 million in counties not in compliance with ozone standards; and

WHEREAS, many of these areas, despite good faith efforts, will not be able to achieve the standards for ozone and carbon monoxide by the December 31, 1987 deadline; and

WHEREAS, in many areas attainment of the ozone standards will not be possible without greater understanding and attention to regional transport of ozone forming chemicals; and

WHEREAS, the Clean Air Act does not set forth ozone and carbon monoxide programs which extend beyond 1987, and does not have provisions for such areas, other than sanctions imposed by the Environmental Protection Agency or by the courts as a result of citizen suits;

THEREFORE BE IT RESOLVED, that the National Association of Counties urges Congress to amend the Clean Air Act prior to December 31, 1987. Such amendments should provide for a sensible and orderly long-range strategy for air quality improvements and attainment of federal health air quality standards, including the following:

1. Extended deadlines for attainment of ozone and carbon monoxide standards for those counties making a good faith effort to comply with the standards; and
2. Sanctions on those entities for failure to try but not sanctions for trying and failing to be in attainment; and
3. Appropriate measures and procedures (including positive and financial incentives) to insure continued progress toward achieving national air quality goals; and
4. Development of a more effective control strategy with attention to regional transport issues; and
5. A program to educate citizens on the serious health hazards posed by polluted air.

Passed by the Environment and Land Use Steering Committee
March 15, 1987 (unanimous)

Adopted by the Board of Directors
March 17, 1987

Passed by the Environment and Land Use Steering Committee
with minor revisions
July 11, 1987 (unanimous)

NAM
National Association
of Manufacturers

ALEXANDER B. TROWBRIDGE
President

August 28, 1987

Sen. George Mitchell
Chairman
Subcommittee on Environmental
  Protection
Committee on Environment and
  Public Works
454 Dirksen Senate Office Building
Washington, DC 20510

Attn: Kate Kimbell

Dear Senator Mitchell:

Thank you for extending the deadline for allowing industry to file comments on the Committee Working Paper. We offer these comments as constructive criticism and request that they be included in the docket record.

The National Association of Manufacturers is concerned with and supports the existing Clean Air Act. While the NAM supports measures designed to "protect human health" we cannot support the Committee Working Paper which reflects major unnecessary changes to the existing Clean Air Act.

The NAM notes that EPA Administrator Lee Thomas testified on July 27, 1987 that the EPA remains opposed to all five titles of this Working Paper. He estimated that this Working Paper would cost industry at least $30 billion per year.

Many members of the Senate share our view that this Working Paper has moved entirely too quickly without sufficient hearings and participation from interested parties. Twenty Senators have contacted the Office of Technology Assessment, the Congressional Research Service and the Congressional Budget Office to obtain a more thorough analysis of the economic impact of this Working Paper. We anxiously await these studies.

We urge you to hold hearings on this Working Paper because of its scope and major changes to the Clean Air Act.

The NAM is opposed to the subcommittee Working Paper and urge you to review our comments before the Senate Environment and Public Works Committee marks up this Working Paper on September 15-16, 1987.

Sincerely,

A.B. Trowbridge

1331 Pennsylvania Ave. NW
Suite 1500 - North Lobby
Washington, D.C. 20004-1703
(202)637-3012

COMMENTS
ON BEHALF OF THE
NATIONAL ASSOCIATION OF MANUFACTURERS

ON THE
COMMITTEE WORKING PAPER
PROPOSED "CLEAN AIR STANDARDS ATTAINMENT ACT OF 1987"

SUBCOMMITTEE ON ENVIRONMENTAL PROTECTION
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

UNITED STATES SENATE

AUGUST 28, 1987

Title I
Requirements for Nonattainment Areas

The Senate Environmental Protection Subcommittee has produced a Committee Working Paper which would make sweeping and fundamental changes to the Clean Air Act. This Working Paper would impose significant life-style changes on those living in nonattainment areas, would severely limit, and in many areas, effectively prohibit industrial expansion and modernization or community growth and force the closing of many facilities.

Title I imposes stringent remedie: in exchange for ozone nonattainment deadline extensions. Such "remedies" may be so severe that many nonattainment communities may opt for sanctions instead of the new control measures. It is unfortunate that the nonattainment problem, which may result in sanctions for over 70 of our U.S. communities, is coupled with enactment of controversial control provisions which are unacceptable to many, and would in our estimation do little to pursue a "solution" to the perceived problem.

Enormous progress has been made in recent years in reducing ozone pollution. Vehicle emissions have been reduced by 90 percent and industrial emissions by more than 80 percent since the Clean Air Act was passed in 1970.

Data on ozone levels show that air quality in areas that have not attained the standard for ozone is better than generally perceived. The EPA reports that 80 million to 100 million people live in more than 70 areas of the country that have not attained the ozone National Ambient Air Quality Standard established under the Clean Air Act. However, EPA's ozone data show virtually all areas comply with the standard more than 99 percent of the time. Thus, it appears very few people are exposed to ozone levels that violate the standard. This perspective on the severity of the ozone problem raises the question whether harsh, expensive sanctions or severe controls for many nonattainment areas are appropriate.

The major problems with the Working Paper's extensive controls provisions include:

1. reduced EPA flexibility in dealing with regional and local ozone differences;
2. statutory imposition of schedules for use of alternative fuels for fleet vehicles operating in nonattainment areas;
3. prohibition of emissions "trading" for existing sources;
4. requirement of Reasonably Available Control Technology (RACT) for source categories identified by an ozone transport region commission; and
5. transportation controls which don't take into account local traffic flow, industrial growth or alternative measures allowed to achieve the same emissions reduction.

Title II
Acid Rain

It is unfortunate that the so-called "acid deposition" debate is not carried on within the context of a debate on national energy policy. Coal is our most abundant energy resource. We have enough coal reserves to last hundreds of years; they are not subject to foreign influences such as embargoes or exorbitant price increases. More than 50 percent of the nation's electricity is generated by burning coal. Yet, many proposals to deal with the acid deposition phenomenon amount to a "crash program" that would jack up the cost of coal-generated electricity through mandated retroactive installation of emission controls.

Emissions of sulfur dioxide have been decreasing steadily and substantially in recent years, 28 percent over the last decade while coal usage has increased by 64 percent. There is no evident reason why this trend should not continue.

Congress has very wisely given enthusiastic support to a national clean coal technology program. We believe that innovative clean coal technology is the way to go rather than a superstructure of more federally mandated regulation superimposed on the Clean Air Act, which has worked well for more than a decade.

Title II could impact on small manufacturers as well as larger manufacturers, because it commands each state to adopt such additional enforceable measures, including, but not limited to, controls on other stationary sources.

Congress should at least wait for the results of the National Acid Precipitation Assessment Program (NAPAP) which Congress established about 10 years ago and is concluding its work. In this context, NAM would point out the following major problems in Title III:

o a disregard for "good science" in assessing cause and extent of acid deposition.

o a prohibition of interstate "trading";

o requirements for costly continuous emission monitoring;

o a fundamental undermining of Clean Coal Technology due to strict timetables which do not account for new technologies not yet commercially demonstrated;

o no provisions for handling "scrubber sludge" (expected to be 50 million tons by the year 2000); and

o the international or trans-boundary pollution provision is unnecessary since it is covered under section 115 of the existing Clean Air Act.

Title III
Mobile Source and Other Federal Controls

Title III imposes stringent emissions standards on all cars and trucks manufactured for sale in model year 1990 and beyond. In addition, the Working Paper requires that those emissions standards be met for twice the period required under present law. These changes will impose tremendous costs on both automobile manufacturers and drivers.

Specifically, the Working Paper requires that the following emissions standards for passenger vehicles be tightened accordingly:

1. hydrocarbons -- from 0.41 grams per mile under present law to 0.25 by 1992; and
2. nitrous oxides -- from 1.0 grams per mile under present law to 0.4 by May 1990.

At the present time, a significant new technology that can be applied to achieve the proposed standards during the certification process does not exist. Until such technology is discovered, efforts to meet the proposed standards would focus on fine-tuning existing catalyst and other technologies. It is extremely uncertain whether such technologies are adequate to achieve compliance under the proposed timetable.

Even if existing technology were sufficient for a vehicle to obtain a certificate of conformity with the more stringent standards, there is no assurance that that vehicle would continue to meet those standards over its "useful life," defined under present law as 5 years or 50,000 miles. The customer's use of the vehicle over such a long period makes compliance by the manufacturer more difficult. The Committee Working Paper would make "in-use" compliance even more difficult by requiring a vehicle to meet the proposed standards for 10 years or 100,000 miles. In order to accommodate the inherent catalyst deterioration that would occur over 100,000 miles, manufacturers would have to meet emissions standards that are even lower than those proposed.

The tighter standards and increased useful life of a vehicle called for by this Working Paper create an impossible situation for auto manufacturers. It is quite uncertain that these standards can be met either during the certification process or when the vehicle is in use. However, even if new technology is developed to meet them during certification, manufacturers will still be subject to a much greater risk of warranty liability and recall. This could seriously damage sales of U.S. manufactured automobiles and hurt U.S. competitiveness. A less costly, more reliable method of attaining ambient standards by 1992 is to remove older cars from the road through fleet turnover.

Fuels Regulations (Section 303)

Mandated reduction of commercial fuel volativity carries with it implications for a number of industries and would have significant effects on U.S. national energy policy.

Statutorily mandating usage of particular fuels (such as those with specific oxygen content) would introduce inefficiencies into the market, drive up fuel prices and restrict consumer choices.

Title IV
Ambient Air Quality Standards

U.S. EPA Administrator Lee Thomas testified on July 27, 1987 that the National Ambient Air Quality Standards (NAAQS) reflected his agency's commitment to human health protection. The NAM supports this view and feels promulgation of a new and more stringent NAAQS should be justified on scientific and medical grounds.

Title IV does not reflect scientific or medical concerns in requiring the EPA administrator to promulgate a more stringent NAAQS for ozone, fine particulates, carbon monoxide and nitrogen dioxides.

The EPA administrator has every option to revise standards and promulgate regulations based on a scientific basis.

Currently, there is no scientific or medical need for a 1-hour SO_2 standard. Adoption of more stringent standards would artificially create more nonattainment areas.

The NAM believes the EPA bases standards on non-political scientific studies designed to protect human health and does not support a more stringent standard.

Title V
Hazardous and Toxic Air Pollutants

One of the most perplexing sections of the Committee Working Paper is Title V - Hazardous and Toxic Air Pollutants. This section reverses existing law by listing criteria pollutants to be regulated as hazardous air pollutants.

The committee should defer action on this topic until more information about the problem and a variety of possible solutions have been reviewed by EPA, the Congress and other interested parties.

Title V would require EPA to tell companies, farmers, small business operators and other individuals how to run their manufacturing, distribution and processing operations. Though routine processing releases of such substances may cause no effect whatsoever, this legislation allows for intrusive authorities to establish equipment design, work practice and operational requirements.

Imposition of such requirements could inhibit the development of safer, more efficient and more competitive technologies and processes. Thus, it could restrict our ability to maintain competitiveness in the international market place.

The legislation also calls for "area sources" - such as degreasing and solvent cleaning operations, pesticide applicators, gasoline marketers and wood stoves - to reduce emissions by 25 percent within four years and 55 percent within ten years without any consideration given to whether these reductions are technologically feasible or necessary. The ability of farmers, dry cleaners and other small businesses and perhaps even homeowners to comply with these stringent requirements is difficult to envision.

Finally, this legislation comes on the heels of the massive chemical record keeping and reporting requirements authorized less than a year ago by Congress as Title III of the Superfund reauthorization bill. We believe that if Congress truly desires to create a comprehensive air toxics regulatory program, it would be premature to do so now without benefit of the data soon to be collected under the new Superfund requirements.

Statement for the Record

Re: Committee Working Paper dated July 10, 1987

Subcommittee on Environmental Protection
Committee on Environment and Public Works
on behalf of the
National Paint & Coatings Association
by
Thomas J. Graves, Associate General Counsel
and
Robert H. Lamb of McGuire, Woods, Battle & Boothe

August 21, 1987

Introduction

The National Paint and Coatings Association, Inc. (hereafter referred to as "NPCA" and headquartered at 1500 Rhode Island Avenue, N.W., Washington, D.C.) is a voluntary, non-profit industry association originally organized in 1888 and comprising today over 800 member companies which manufacture consumer paint products and industrial coatings and the raw materials used in these products. The NPCA membership collectively produces about 80% of the total dollar volume of consumer paints and industrial coatings produced in the U.S. The paint and coatings industry consumes over 2.30 billion pounds of material and synthetic resins in the production of over 1 billion gallons of paint and coating products per year.

Overview

In light of the numerous complex matters contained in the committee working paper dated July 10, 1987 and the adoption by the Subcommittee on July 29, on the occasion of reporting the working paper to the full Committee, of a complete substitute for Title V (relating to hazardous air pollutants), we will focus our comments on a few provisions of particular concern to us. However, we wish to strongly emphasize that our concentration on some issues does not reflect approbation for the rest of the working paper, which we believe to be seriously flawed.

The Committee working paper, if enacted, would fundamentally alter the structure of the Clean Air Act and dramatically increase regulation of solvent based coatings. The portions of the paper that would have a particularly dramatic impact on the paint and coatings industry are §§ 102(b), 304 and 402.

Section 304 of the paper would add a proposed section 130 (relating to hydrocarbon emission controls) to Part A of Title I of the Clear Air Act. In essence, this section inappropriately would require EPA to promulgate regulations establishing emission limitations, standards of performance, or standards for product composition or application for hydrocarbon emissions associated with commercial solvents, consumer solvents, architectural coatings, pesticide application, traffic marking coatings, and metal parts coatings in military specification applications and aerospace industry applications. With respect to existing sources or activities not subject to section 111 (standards of performance for new stationary sources) or section 173 (permit requirements for nonattainment areas), the regulations under proposal section 130 would require the degree of emission reduction or control, at a minimum, of reasonably available control technology as newly defined. A discussion of §§ 102(b) and 402 is necessary because they impact directly on § 304.

Comments

1. § 102(b) - New Definition of Reasonably Available Control Technology (RACT)

- RACT would continue to be "reasonably available" in name only. Under the new definition it would be more accurate to describe it as MACT, or "maximum achievable control technology."

- In the scheme of the Clean Air Act, RACT is intended to be a means available to the states for achieving compliance with the National Ambient Air Quality Standards. The language in the proposed definition requiring EPA to take into account the "potential toxic character" of hydrocarbon emissions is inconsistent with this purpose, and will make RACT determinations infinitely more difficult. What "taking into account" the "potential toxic character" of emissions would entail is unclear, and the weight to be given to this factor is not indicated. Control of air toxics is, and should continue to be, addressed separately in the Clear Air Act; it is irrelevant to the ozone attainment issue and would simply constitute unnecessary baggage for the nonattainment program.
- Under the current regulatory definition of RACT at 40 CFR § 51.1(o) state agencies are directed to consider social and economic impact, and alternative means of attaining standards. RACT is also tied to the concept of "reasonable further progress". Under the

proposed statutory definition these criteria would no longer be considered.

- The new RACT definition would apply to any "significant" source or class of sources; however, there is no elaboration of what constitutes significance in this context, either for individual sources or for a class of sources. Arguably it would reach very small sources in view of the reduction, in proposed § 171(5), of the cut-off for classification as a major source down to 25 tons.
- The new RACT must be implemented and enforced through a permit system for all "stationary sources." Again there is no threshold; all sources that are not *de minimis* may be covered.
- Under the proposed new § 178(c)(1), RACT requirements would be extended to attainment areas within the newly established ozone transport regions; in addition, emissions trading and bubbles would apparently be prohibited in such regions.

2. Section 304 - Federal Hydrocarbon Emission Controls

- One significant feature of the standards and limitations to be established under this section is that they could apply to the application of a product as well as its composition.

- The regulations would, at a minimum, have to achieve the degree of emission reduction achievable through RACT. RACT, of course, is intended to be an area specific requirement, not a uniform national standard. RACT may differ from nonattainment area to nonattainment area. A possible interpretation of proposed § 130(b) is that the national standard would have to be equivalent to the most stringent RACT adopted anywhere in the country, even though RACT for Los Angeles, for example, may be totally inappropriate for other areas. As a practical matter, the combined effect of this section and the new definition of RACT would be to create a national lowest achievable emission rate (LAER) for those categories of hydrocarbon sources that are covered.
- § 130(b) only requires EPA to consult with affected industry and certain federal governmental entities in promulgating regulations for commercial solvents and metal parts coatings in military specification applications and aerospace industry applications. This provision should be broadened to require consultation with

affected industry for all categories of sources.

- If national hydrocarbon controls are to be promulgated for categories of sources, they should be subject to the same statutory criteria that apply to new source performance standards, i.e., they should be adequately demonstrated and take into consideration cost and non-air quality health and environmental impact and energy requirements.

3. § 402 - Required Air Quality Standards

- § 402 would amend § 109 of the Clean Air Act to require promulgation of a more stringent ozone standard within three years based on concentrations averaged over a period of not less than eight hours, and, taking into account subchronic human health efforts, is more protective and stringent than the existing ozone standard. This would constitute a highly improper and inappropriate prejudgment by Congress of scientific issues. EPA is already subject to a mandate to review and, if necessary, revise the ozone standard and the other National Ambient Air Quality Standards at least every five years.

Suggestions

Though not advocating the adoption of federal hydrocarbon emission standards for the categories of sources listed in section 304, if the Congress were to require the same, then specifically addressing the propositions as contained in section 304, we would respectfully urge incorporation of the following:

- In the interest of fairness make the consultation requirements which were bestowed upon the affected industries for only two categories of sources apply to those for all six of the categories in the development of regulations.
- Require certain reasonable balancing factors found in new source standards of performance to be taken into consideration in the development of regulations (i.e., costs, energy requirements, and any non-air quality health and environmental impact).
- Because the regulations are targeted at products which flow in interstate commerce, any regulations under this provision should obviate the need for any other Clean Air Act hydrocarbon control requirement, absent some specific assertion of a given state's residual authority under section 116 to require something more stringent.

- RACT as newly defined should not be mandated as the minimum acceptable level of control for regulations, but should be relegated to the status of a factor to be considered only to the extent appropriate.
- EPA should be given the explicit power of revision respecting regulations developed under the provision.
- The promulgation of the regulations should be plugged into the carefully crafted hybrid procedural safeguards found in section 307 of the Clear Air Act available for the exercise of other major rulemaking authority by EPA.

Amendment

Language designed to accomplish the above suggestions is as follows:

Proposed Sec. 130(b), as contained in Sec. 304, is amended to read as follows:

"(b) The regulations under this section shall take into consideration the factors enumerated in section 111(h)(1) and, to the extent appropriate, the degree of emission reduction or control achievable through the adoption of reasonably available control technology, as defined in section 171(6). In developing regulations under subsection (a) of this section, the Administrator shall consult with the affected industries, including the industries procuring such products, and, with respect to subsections (a)(1) and (a)(6) of this section, with representatives of the Department of Defense, the Federal Aviation Administration, and the National Aeronautics and Space Administration involved in the establishment of specifications for such parts or coatings. Such regulations may be revised in the same manner as promulgated.

Delete the quotation marks following the end of proposed Sec. 130(c) and the period immediately thereafter and add the following subsection:

"(d) Compliance with regulations promulgated pursuant to this section for hydrocarbon emissions associated with the categories of sources enumerated in subsection (a) shall be deemed, for such sources, to satisfy any applicable federal hydrocarbon emission control requirements of the Clean Air Act.".

Sec. 304 is amended by adding a new subsection as follows:

(c) Section 307(d)(1)(C) of the Clean Air Act is amended by inserting before the comma the following phrase: "or requirement under section 130".

NRDC

Natural Resources
Defense Council

1350 New York Ave., N.W.
Washington, DC 20005
202 783-7800

August 21, 1987

The Honorable George J. Mitchell
U.S. Senate
176 Russell Senate Office Building
Washington, DC 20510

Dear Senator Mitchell:

We understand that you have been contacted recently by the manufacturers and users of the chemical tetrachloroethylene ("perchloroethylene"). Perchloroethylene is widely used as a dry cleaning solvent and for other solvent purposes. Thousands of people are routinely exposed to it in work places, and tens of millions of people are exposed through air emissions, water contamination, and off-gasing from clothing and products in the home.

These exposures are of great concern because perchloroethylene is believed to be capable of causing cancer. In December 1985, EPA determined that perchloroethylene should be considered a "probable human carcinogen" (50 Fed. Reg. 52880-84 (1985)). Subsequent analyses by the EPA, by the National Toxicology Program, and the International Agency for Research on Cancer have reached comparable conclusions. A differing view from a subcommittee of the EPA Science Advisory Board is under re-examination by the Board at the present time.

Enclosed with this letter is an analysis of the data on perchloroethylene by NRDC's senior scientist and research director, A. Karim Ahmed. He concludes that perchloroethylene must be classified according to recognized scientific criteria and EPA guidelines.

Emission controls to meet technology and health tests are provided under Title V of the bill reported by the Subcommittee on Environmental Protection. These are essential measures. Ultimately, however, the solution to the health problems posed by perchloroethylene is to develop adequate and safe substitutes,

100% Recycled Paper

New York Office:
122 East 42nd Street
New York, New York 10168
212 949-0049

Western Office:
25 Kearny Street
San Francisco, CA 94108
415 421-6561

New England Office:
850 Boston Post Road
Sudbury, MA 01776
617 443-6300

Toxic Substances
Information Line:
USA: 1-800 648-NRDC
NYS: 212 687-6862

and phase-out perchloroethylene on an orderly schedule. Experience with other pollutants, however, e.g., CFCs, asbestos, and PCBs, shows that the incentives for developing the adequate substitutes will not exist unless governmental regulation makes it attractive.

NRDC wants to work with the full committee to amend Title V to create the necessary incentives for this transition away from dangerous solvents such as perchloroethylene.

Sincerely,

David D. Doniger (bld)

David D. Doniger
Senior Attorney

DDD/bld
Enclosure (1)

NRDC

Natural Resources
Defense Council

1350 New York Ave., N.W.
Washington, DC 20005
202 783-7800

Evidence of Carcinogenicity of Tetrachloroethylene (Perchloroethylene) - A Summary Memorandum

A. Karim Ahmed, Ph.D.
Senior Scientist and
Research Director

August 14, 1987

100% Recycled Paper

New York Office:
122 East 42nd Street
New York, New York 10168
212 949-0049

Western Office:
25 Kearny Street
San Francisco, CA 94108
415 421-6561

New England Office:
850 Boston Post Road
Sudbury, MA 01776
617 443-6300

Toxic Substances
Information Line:
USA: 1-800 648-NRDC
NYS: 212 687-6862

In August, 1986, the National Toxicology Program (NTP) published the results of chronic animal bioassay studies of rats and mice exposed to tetrachloroethylene (perchloroethylene). Subsequent reviews of the studies' findings by the NTP's Scientific Review Subcommittee, the International Agency for Research on Cancer (IARC) and the Environmental Protection Agency's (EPA) staff have all concluded that tetrachloroethylene demonstrate clear evidence of carcinogenicity in animals and therefore should be considered a potential carcinogen to humans. I will briefly summarize the basis for these conclusions:

A.) National Cancer Institute Study, 1977:[1]

In this earlier study, four groups of B6C3F1 strain of mice were fed tetrachloroethylene (gavaged) for 78 weeks. Results of this study were as follows:

Dose	Liver Tumor Incidences	
	Male Mice	Female Mice
Vehicle Control	2/20 (10%)	0/20 (0%)
Untreated Control	2/17 (12%)	2/20 (10%)
Low Dose	32/49 (65%)	19/48 (40%)
High Dose	27/48 (56%)	19/48 (40%)

It should be noted that the increased incidences of liver tumor in both sexes were highly statistically significant at all dose levels ($p < 0.001$). In addition, liver tumors were first observed in the male mice at 27 to 40 weeks for the two dosed groups compared to 90 weeks for the untreated control groups, indicating a considerably earlier onset of tumors in the male mice strain.

While it is generally true that the historical spontaneous liver tumor rates for the B6C3F1 male mice is relatively high (18%), it is certainly not high for the female strain (2.9%). Yet, in the NCI study, the mice liver tumor rates are highly enhanced for both sexes -- 56 to 65% in the male mice and 40% for the female mice.

B.) National Toxicology Program Study, 1986:[2]

In this study, both Fischer 344/N strain of rats and B6C3F1 strain of mice were exposed by inhaling tetrachloroethylene 6 hours per day, 5 days per week, for 103 weeks. The results of these studies are as follows:

1.) Mice Liver Tumors:

Dose	Liver Tumor Incidences (hepatocellular adenoma or carcinoma)	
	Male Mice	Female Mice
Control	16/49 (33%)	4/48 (8%)
100 ppm	31/49 (63%)[a]	17/50 (34%)[b]
200 ppm	40/50 (80%)[b]	38/50 (76%)[b]

a - $p < 0.01$
b - $p < 0.001$

When the above results are examined for the incidences of malignant hepatocellular carcinoma alone, the significance of the finding of carcinogenicity is even more marked. Thus, for the male mice, while the incidence of hepatocellular carcinoma is 52%

in the high-dosed group, it is only 14% in the control group of mice. For the female mice, the incidence of malignant tumors is 72% in the high-dosed group, while only 2% in the control group of animals. From both a statistical and biological point of view, these results are highly significant and are entirely consistent with the results obtained in the NCI mice study mentioned earlier.

2.) Rat Kidney Tumors:

Dose	Kidney Tumor Incidences Male Rats (F 344/N)		
	adenomas	adenocarcinomas	combined
Control	1/49 (2%)	0/49 (0%)	1/49 (2%)
200 ppm	3/49 (6%)	0/49 (0%)	3/49 (6%)
400 ppm	2/50 (4%)	2/50 (4%)	4/50 (8%)

While the above results do not show a statistically significant increase of male rat kidney tumors (tubular cell adenomas and carcinomas), the incidence of two malignant adenocarcinomas in the high-dosed group of rats is considered to be extraordinary, since historically no malignant tubular cell kidney carcinoma have been observed in untreated animals in past NTP studies. This observation is important when considering the overall weight-of-the-evidence for determining carcinogenic potential of tetrachloroethylene. Both the NTP report[2] and the EPA Health Assessment addendum report[3] state the unique importance of these findings. Recently, an EPA staff document (dated July 30, 1987) made this point quite definitively:[4]

> "As of August 1985, the historical incidences for [kidney tubular cell] adenomas in Battelle PNL chamber controls and in NTP program untreated controls are 1/249(0.4%) and 4/1,968 (0.2%) respectively. No malignant renal tubular cell tumors have ever been observed in control groups.... Given that no malignant renal tumors have been seen in control animals, the possibility of finding 2 malignancies in 50 animals by chance with a historical control incidence of 0/1,968 is highly unlikely ($p<0.001$, Fisher Exact test, one-tailed)..... While not reason enough on its own to suggest a strong positive carcinogenic response in rats, this rare event does add to the weight of evidence.... there is little doubt that the kidney is a target organ for perchloroethylene and other chlorinated ethanes and ethylenes in mamalian species and this also cntributes to our concern." (Emphasis added).

3.) Rat Mononuclear Cell Leukemia:

Dose	Leukemia Incidences	
	Male	Female
Control	28/50 (56%)	18/50 (36%)
200 ppm	37/50 (74%)[a]	30/50 (60%)[a]
400 ppm	37/50 (74%)[a]	29/50 (58%)[a]

---

a - $p < 0.05$

As can be seen from above, that while the incidence of mononuclear cell leukemia incidence in the control groups of both male and female rats (F 344/N strain) are relatively high (56% and 36%, respectively), the leukemia incidence at all dose groups of animals in both sexes was statistically significant, the difference being more clearly enhanced with the female rat.

Taken together with other malignant lesions observed in the mice and rat, these findings also must be factored in the overall qualitative carcinogenic evaluation of tetrachloroethylene.

CONCLUSION:

The NTP's Peer Review Panel through its Scientific Review Subcommittee came to the following conclusion on the recent chronic bioassay inhalation studies with tetrachloroethylene:

> "Under the conditions of these 2-year inhalation studies, there was *clear evidence of carcinogenicity* of tetrachloroethylene for male F 344/N rats as shown by an increased incidence of mononuclear cell leukemia and uncommon renal tubular cell neoplasma. There was *some evidence of carcinogenicity* of tetrachloroethylene for female F 344/N rats as shown by increased incidences of mononuclear cell leukemia. There was *clear evidence of carcinogenicity* for B6C3F1 mice as shown by increased incidences of both hepatocellular adenomas and carcinomas in males and of hepatocellular carcinomas in females." (Emphasis in original).

It should be noted that the highest interpretative conclusion that NTP reaches on evaluating chronic animal studies is when it states that there was a "clear evidence of carcinogenicity". In the above studies, such a conclusion was reached for the male rat and for both the male and female mice, indicating NTP's strong sense of the overall weight of the evidence for the carcinogenicity of tetrachloroethylene.

In April 1986, the EPA staff in reviewing the preliminary findings of the recent NTP animal study, published a review draft Addendum to the Health Assessment for tetrachloroethylene[3] in which they placed tetrachloroethylene in the category of B_2, using EPA's designation of compounds that are "probable" human carcinogens:

> "The NTP...inhalation bioassay demonstrated that PCE [perchloroethylene] can induce carcinogenic effects in both rats and mice through inhalation exposure. The earlier NCI (1977) bioassay provided positive evidence of hepatocellular carcinomas in mice administered PCE by gavage. These findings....constitute a "sufficient" level of evidence for the carcinogenicity of PCE in animals, using the EPA's Proposed Guidelines for Carcinogen Risk Assessment. The evidence in rats and mice....results in the placement of PCE in EPA's weight-of-evidence-Group B_2, meaning that it should be considered a probable human carcinogen". (Emphasis added).

In conclusion, the chronic animal bioassays conducted by both the NCI, and more recently, the NTP demonstrate the following:

1. Highly statistically significant increases in mice liver tumors were observed in two separate studies, i.e. in both the NCI and the NTP studies, and by two different routes of administration and in both sexes.

2. Early onset of tumors were observed for mice liver tumors and for the rat mononuclear cell leukemia.

3. At least two types of tumors were observed in two strains fo animals (mice liver and rat leukemoa) at statistically significant levels and a rare form of malignant kidney tubular cell carcinoma was observed in the male rat strain.

Taken together, the above findings clearly place tetrachloroethylene in EPA's B_2 category of carcinogens and therefore must be considered a "probable" human carcinogen.

References

1. Health Assessment Document for Tetrachloroethylene, EPA draft document, EPA-600/8-82-005, January, 1982.

2. Toxicology and Carcinogenesis Studies of Tetrachloroethylene (Perchloroethylene) in F344/N Rate and B6C3F1 Mice, NTP Technical Report Series No. 311, NIH Publ. No. 86-2567, August, 1986.

3. Addendum to the Health Assessment Document for Tetrachloroethylene (Perchloroethylene), EPA review draft document, EPA/600/8-82/005FA, April, 1986.

4. EPA Staff Comments on Issues Regarding the Carcinogenicity of Perchloroethylene (Perc) Raised by the SAB, dated: July 30, 1987.

new UNITED MOTOR MANUFACTURING

45500 Fremont Boulevard Fremont, CA U.S.A. 94538 (415) 498-5500

July 27, 1987 Via Federal Express

Hon. George S. Mitchell
Chairman, Subcommittee on
Environmental Protection
Environment and Public Works Committee
458 Dirksen Senate Office Building
Washington, D. C. 20510

Dear Mr. Chairman:

New United Motor Manufacturing, Inc. ("NUMMI"), the corporate joint venture of General Motors Corporation and Toyota Motor Corporation, is pleased to submit the following general comments on the Clean Air Standards Attainment Act of 1987, originally introduced on June 10, 1987 and substantially revised since that date. NUMMI supports the objectives of clean air and a clean environment and believes that substantial progress has been made towards these goals in recent years. Unfortunately, this bill does not recognize this progress, nor does it recognize the special circumstances facing many of the nation's nonattainment areas today. The proposed requirements of the bill will result in substantial burdens and costs, with little corresponding benefit to the environment. In particular, the bill's anti-netting, anti-bubbling provisions could substantially impair our ability to operate or expand, at a cost of thousands of U.S. jobs. Coming at a time in which there is increasing concern about the competitiveness of this nation's manufacturing base, the bill does not strike the proper balance between a clean environment and the need to enhance the competitiveness of U. S. industry. We believe that the bill is seriously flawed in several fundamental respects and we therefore urge that it be withdrawn.

The following comments set forth our principal concerns with S.1351.

I. TITLE I - NONATTAINMENT AREAS.

A. The use of a construction ban as a sanction no longer makes sense and may actually impede progress towards clean air (section 104).

The absolute ban on construction or modification of major sources, taken together with the bill's anti-netting, anti-bubbling provisions, may prevent modification of sources even where the modifications would result in a decrease in emissions. Such a result is obviously not in the best interests of air quality. NUMMI particularly opposes these provisions of the legislation.

The bill's anti-netting, anti-bubbling provisions would result in little or no benefit to the environment, while imposing significant burdens on American industry. For example, assume that our plant operates two similar painting operations, each with permitted emissions of one hundred tons per year. Assume also that we find that the plant can be run more efficiently if these operations are adjusted so that one has emissions of 125 tons per year and the other 50 tons per year. This bill would prohibit internal netting such as these, even though a net air quality benefit would result. The burdens imposed by such a system bear no rational relationship to the problem they are intended to address.

Moreover, we question the continuing utility of the construction ban as a sanction for areas with air quality problems. Such bans, under the best circumstances, have little if any air quality benefit. Indeed, a construction ban may encourage the operation of older, dirtier, less efficient plants and discourage or prohibit construction of newer, cleaner plants or modifications of existing plants that improve air quality. Furthermore, the contribution that new construction or modifications make to air pollution are an extremely small percentage of the overall pollution source mix in nonattainment areas. Banning construction or modification simply will not help solve the problem.

New United Motor believes that the original purpose of the ban -- to force serious regional air quality planning efforts -- has been served, especially in the San Francisco Bay Area. Continued use of the ban, particularly without recognizing that construction and modification often improve air quality, would be counterproductive to the goal of clear air.

B. The bill would perpetuate the unrealistic absolute attainment/nonattainment classification system.

Our Company operates a manufacturing plant in the San Francisco Bay Area, which is characterized by EPA as an ozone nonattainment area. Air quality in the San Francisco area has, however, improved significantly in recent years. EPA monitoring data shows that the number of hours of exeedances of the ozone standard declined from 194 in 1969, to 29 in 1983, to 3 in 1986. In addition, fewer monitors showed exceedances, which means that fewer people were exposed. This data shows a vast improvement in air quality -- an improvement not reflected in our nonattainment classification or the bill's proposed control strategies.

The data we have reviewed also tends to show that local geographic conditions -- our location in a basin -- and weather conditions -- hot, dry summers -- directly affect our air quality. The impact of such local conditions is not recognized by EPA's attainment designation nor is it addressed by the bill.

The characterization of air quality, and the strategies developed to address air pollution, should take into consideration the severity of the problem and local conditions that could affect the viability of particular control measures. This legislation completely fails to take fundamental realities into account and in fact only serves to perpetuate an unrealistic approach that skews priorities in air quality objectives.

C. The bill sets unrealistic attainment dates and establishes severe penalties that do not necessarily correspond to the source of air quality problems (section 101).

Absolute dates for attainment such as were set for 1982 and 1987 have proven unrealistic and unworkable. The bill moves this date out to December 31, 1992 -- a very near-term date where air quality planning is concerned. Establishing a new and unrealistic date certain for nationwide compliance with national ambient air quality standards will create a false sense of certainty and ultimately will disappoint the American people.

Attainment dates must reflect the actual severity of air quality problems in each area and realistic estimates of how such problems can be solved. Attainment dates should be established locally after consideration of available control strategies, local geographic and weather conditions and the likelihood that local air quality problems can be cured by a particular date. The bill fails to achieve these objectives.

Section 101 of the bill also would impose large fines and fees on major sources located in post 1992 attainment areas. The fact that a particular stationary source is large, however, does not mean that it is a significant contributor to attainment problems. Many large stationary sources, such as our plant, have made dramatic reductions in emissions. Indeed, most air pollution is attributable to large numbers of small sources. Individual control strategies should be implemented only if they are more cost-effective than other as yet untried alternatives. An automatic penalty system ignores this basic concept. Moreover, penalizing large sources, which often have dramatically reduced their emissions, simply because they are located in problem areas is unfair and is unlikely to yield any significant environmental benefit.

D. Regulations affecting products such as solvents, architectural coatings and metal parts coatings should be required only if such regulations provide more benefit for the cost than other available alternatives.

The bill would add a new section 130 to the Act requiring the EPA Administrator to promulgate regulations establishing emissions limits, performance standards or standards for product composition or application for particular consumer and commercial products. The bill characterizes such products as "sources". It is unwise to mandate control of particular products without requiring consideration of their contribution to air quality problems and the benefit to be gained from such controls. This provision of the bill fails to consider existing regulatory programs, such as new source performance standards and reasonably available control technologies, that already affect the use of such products in industries such as ours.

II. TITLE V - HAZARDOUS AND TOXIC AIR POLLUTANTS

Title V replaces existing section 112 of the Clean Air Act -- National Emission Standards for Hazardous Air Pollutants -- with a new section 112 consisting of three regulatory programs. These programs regulate (1) hazardous air pollutants, (2) toxic air pollutants, and (3) extremely hazardous air pollutants.

A. The bill sets an unworkable and unfair standard for setting hazardous air pollutant emission limitations that could cause serious harm to the economy.

New section 112 requires the Administrator to identify and set emission standards for hazardous air pollutants. The bill requires the Administrator to list substances whenever evidence indicates that:

> "the most exposed persons may be exposed to ambient concentrations that may exceed the threshold for adverse health effects,"
>
> "(for non-threshold pollutants) the most exposed persons may be exposed to ambient concentrations of such pollutant which may present more than a negligible risk of adverse health effects, or significant adverse effects to the environment are likely to occur as a result of ambient concentrations, deposition or bioaccumulation of such pollutant."

Requiring the Administrator to list pollutants that present a risk greater than negligible but less than significant will result in costly regulation of many sources that do not pose a priority concern.

The Administrator must promulgate an emission standard for each listed pollutant within three years of listing. He must set the emission standard at a level at which no known or anticipated adverse effect on the health of persons occurs including an ample margin of safety unless a more stringent standard is required to protect the environment. No consideration of cost, economic, energy or other factors or technological feasibility can be included in the determination of the appropriate level for any emission under this subsection. Both new and existing sources must comply with the emission standards.

This section of the bill establishes a completely unrealistic and inefficient standard by which the Administrator must set emission limitations. The Administrator is required to set standards for all categories of sources with more than de minimis emissions, regardless of the efficacy of controlling those sources. Because the Administrator is precluded from considering cost, energy consumption, or technological feasibility, the bill will undoubtedly result in overkill which will exacerbate the non-competitive position that many U.S. industries find themselves today.

The bill precludes the Administrator from considering all the factors that would allow him to set reasonable workable and acceptable standards. He will have no practical method for determining how best to achieve an overall reduction by reducing emissions from particular sources. The resulting arbitrary standards will bear no relation to the burdens imposed or benefits given by particular sources. It is ironic that in Congressional debate on other legislation, such as the omnibus trade bill, we hear continuous complaints about the decline of the nation's manufacturing base and resultant job loss to other countries. Yet this bill -- which imposes burdensome regulations without regard to cost -- will make it more difficult for American industry to compete.

B. The bill's regulation of toxic air pollutants is overbroad.

The bill regulates toxic air pollutants by establishing a list of such pollutants that includes, but is not limited to, the substances subject to the requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986. Under section 313, anyone may petition the Administrator to add a substance to the list, which the Administrator must do upon a showing that the substance is known to cause or may reasonably be anticipated to cause adverse effects on human health and the environment and the substance is emitted into the air in more than de minimis amounts. The Administrator must establish emission standards for categories of major source (with the potential to emit more than ten tons per year) of listed toxic air pollutants assuring that such sources' emissions are no higher than that which would be achieved if the source employed best-available control technology ("BACT").

This section of the bill regulates an unnecessarily great number of substances based on virtually no showing of any adverse affect of those substances. The list of toxic pollutants starts with a list of more than 300 common chemicals, many of which do not pose a significant hazard when emitted into the air and for which the health effects have not been adequately evaluated. Furthermore, a substance may be added to the list apparently upon a showing of *any* adverse effect on human health or the environment at all, qualified by *no level of significance*. The bill, in effect, allows the addition of contaminents simply by rote.

A person may petition the Administrator to de-list a substance *only* upon a showing that either: 1) the pollutant will not cause any adverse effect on human health, or 2) the environment or the threshold for adverse effects is substantially above the emissions limit resulting from BACT and compliance with the limit would impose extraordinary economic costs on the owners of major sources. Such a showing will be extremely difficult or impossible to make. Even if the Administrator does de-list a substance, he must still establish an emission limit for that substance adequate to protect human health and the environment with an adequate margin of safety. This section imposes substantial, expensive requirements for control of an unnecessarily large number of substances. Such extensive regulation should be based on a much clearer showing of the need for regulation. The burdens that would result from such an overbroad, "shotgun" approach would be staggering and of uncertain benefit at best. Legislation that does not take into account the relative benefits and burdens it imposes should be defeated.

C. *The bill's regulation of extremely hazardous air pollutants is duplicative*.

This section of the bill requires the Administrator to publish lists of extremely hazardous substances which may cause adverse health effects as a result of their sudden or episodic release into the air. Operators of facilities at which listed substances are present must perform detailed hazard assessments or audits and safety inspections for each listed substance. The Administrator must also promulgate regulations designed to prevent, detect and correct releases of listed substances, and he must establish penalties for their release. The bill also establishes an independent Chemical Safety and Hazards Investigation Board, with broad investigative authority.

These requirements, for the most part, duplicate existing requirements, and will cause unnecessary confusion and add unnecessary expense to a sound, existing regulatory scheme. Congress has already directed EPA, through section 305 of the Superfund Amendments and Reauthorization Act of 1986 ("SARA"), to review emergency systems for monitoring, detecting, and preventing releases of extremely hazardous substances. It makes no sense to direct EPA to promulgate more such regulations before it has completed this review. Other existing requirements of SARA also preclude the necessity for further hazard assessments. The information that would be contained in the proposed hazard assessments can already be obtained pursuant to SARA's existing requirements. Furthermore, many of the functions of the Chemical Safety and Hazards Investigations Board are already performed by existing agencies, such as the Occupational Safety and Health Administration. We urge the defeat of legislation that will add plainly unnecessary, extensive regulatory burdens to existing laws that already provide the proposed protection.

III. CONCLUSION

NUMMI believes that sound environmental regulation requires an accurate assessment of the problem and identification of the most efficient and cost-effective means of remedying that problem. In many fundamental respects, this bill fails to meet this standard. The bill's anti-netting, anti-bubbling provision could seriously impair operating flexibility that is essential to our company's ability to compete. Also, prohibiting the consideration of cost while requiring the setting of emission standards if risks are less than significant is unworkable and unnecessary. Such provisions could well eliminate our ability, as well as other American manufacturers, to expand, thus costing thousands of jobs for U.S. workers. Our comments have addressed what we believe to be the major stationary source issues for our business. We strongly urge that the Committee, in view of this legislation's many deficiencies, withdraw this bill and seek further public participation before any further action is taken.

Respectfully submitted,

Dennis C. Cuneo
General Counsel and
Corporate Secretary

DCC/el

South Coast Air Quality Management District
Comments Regarding the
Clean Air Standards Attainment Act of 1987
as of June 30, 1987
(Ref.: Committee Working Paper, July 10, 1987)
(Mitchell bill)

EXTENSION CONDITIONS

Addition of paragraph 172(a)(3) [p.2]

> *Allows submission of new SIP in nonattainment areas to achieve standards by the end of 1992 if good faith efforts have been made to comply with the original SIP and to implement all measures in the original implementation plan.*

We support this action in that it allows a limited reprieve from present unattainable Clean Air Act requirements. Nonattainment areas not impacted by transport, with ozone design values less than .16 ppm, should be able to attain by the end of 1992. They may need to implement improved I/M, Stage II vapor recovery, and tighter industrial controls. These controls, when combined with the continued emissions reductions due to the federal motor vehicle control program alone should provide at least a 15 percent reduction in reactive hydrocarbons and 10 percent reduction in NO_x over the next five years. Carbon monoxide emissions should decrease due to the federal motor vehicle control program by at least 16 percent over the next five years so that areas with design values less than 13 ppm should be able to find enough controls, in addition to the motor vehicle control program, to get themselves into attainment in five years. Additional carbon monoxide controls would likely include improved I/M and better enforcement of the existing federal motor vehicle control programs.

Addition of paragraph 172(c)(2) [pp.2-3]

> *This language requires the submission of a written commitment from state and local control programs within three months of the enactment of the revision in order to qualify for an extension. A revised SIP must be submitted by the end of 1989 and must address standard maintenance after attainment.*

We have no problem with the requirement of a written commitment. Some concern has been raised that the Governor or designated air pollution control officials may lack sufficient authority to commit to such a process. However, this issue should be resolvable.

States should be allowed at least 18 months to turn in a final SIP revision. This Bill would allow this if it is enacted by July, 1988. The South Coast Air Quality Management District has already started developing a SIP revision. Other areas may have trouble generating support to move ahead into this expensive process before the Clean Air Act is amended and requirements are clear. Thus a date later than July, 1988 may be in order.

Addition of paragraph 172(d)(1)(A) [p.3]

Requires I/M program.

This is required by the present Act and should be continued. I/M programs have proved to be beneficial although their effectiveness varies depending upon the stringency of the program (California I/M Review Committee report, 1986). The minimum requirement specified later in the bill will provide for better programs and will be discussed later.

Addition of paragraph 172(d)(1)(B) [p.4]

Requires Stage II vapor recovery.

A Stage II vapor recovery program has been operative in California since 1979. It has proved to be effective and, with the advent of improved nozzles, it has been accepted by the public. The Stage II vapor recovery program could be further enhanced by national standards concerning vehicle gasoline tank filler specifications.

Addition of paragraph 172(d)(1)(C) [p.4]

Requires a schedule for conversion of fleets of 50 or more vehicles to cleaner fuels.

The use of cleaner fuels provides an effective means of cleaning up the air in nonattainment areas. Methanol and electric vehicles are or will be available with adequate range and speeds to be useful in larger vehicle fleets. In California, over 600 methanol passenger vehicles are presently in use as are methanol buses. Over 12 million miles have been accumulated on these vehicles. In addition, there are two electric-powered vans, produced by a General Motors subsidiary, which are being operated in the Southern California area as part of a test fleet. These vans can attain freeway speeds and have a range of up to 60 miles. By 1988, the manufacturer expects to increase the vehicle range to about 120 miles between recharging.

In order to make these alternate-fueled vehicles price-competitive, enough sales have to be accomplished to allow for assembly line production. Ford estimates that a vehicle that can burn methanol or gasoline or any combination, can be produced at a cost less than $300 greater than a conventional gasoline vehicle if 100,000 vehicles are produced. Prototypes of such vehicles are presently operating in California. Ultimately, greater production runs should result in virtually no price differential, according to Ford. The requirement of cleaner-fueled vehicles in all nonattainment areas can create the kind of production demands that will allow for competitively-priced clean-fueled vehicles.

Addition of paragraph 172(d)(1)(D) [p.4]

Requires the use of RACT on sources of organic emissions and sources of NO_x

We concur that RACT is needed for all existing sources of reactive organic emissions and of NO_x

Addition of paragraph 172(d)(1)(E) [p.4]

Does not allow bubbling between existing sources.

We believe that bubbling should not be allowed for new sources in order to avoid applying BACT or LAER. There is little justification to allow a new source to locate with less than state-of-the-art equipment. This has been a long-standing position of both STAPPA and ALAPCO. We also agree that existing sources should not be allowed to improperly net out of offset requirements during expansion. The prohibition for compliance with control requirements at existing sources via bubbling should be more carefully considered. The net result of allowing existing source bubbling is to encourage the development of innovative emission control measures, through advances in control technology, materials development, and improved processes. When such developments occur, they often can be used by other industrial sources, thus providing additional reductions to those targeted by a rule. In our judgment, existing source bubbling also has enabled the South Coast District to adopt technology-forcing regulations on a more expedited time schedule than would be possible without such flexibility. The reason for this is that, by nature, technology-forcing rules tend to be general in nature. That is, emissions limits do not take into account each of the different specific operations that it governs. In such cases (i.e., when the rule does not "fit" each source), bubbling provides an alternative for achieving equivalent reductions by different means. By allowing an alternative means of compliance, a rulemaking body can adopt a technology-forcing rule with the hope that, if the targeted means of reduction cannot be achieved for specific applications, then some alternative means will be found that achieves the same result. In our experience, existing source bubbling does not allow a source to net out of emission reduction requirements. To the contrary, it provides an alternative means for existing sources to comply with technology-forcing rules in situations where other means (as yet undiscovered) exist than those required by rule. The same emission reductions are achieved through this method. Furthermore, existing source bubbling also provides a continuing incentive for innovation. It is imperative to preserve such incentives for areas, such as the South Coast Basin, that depend upon continued technological progress to achieve the emission reductions necessary to attain the ozone national ambient air quality standard. If bubbling is not allowed, rules will be pushed even further toward lowest common denominator levels. Further, the required stationary source reductions embodied in 172(e)(2)(C) of this bill could be jeopardized since compliance would have to occur for each individual source.

The "existing sources" reference should be removed from paragraph (E), or it should be made clear that bubbling within a facility is allowed, and "new sources" re-inserted.

Addition of paragraph 172(d)(1)(F) [p.4]

Requires new or modified major sources to apply LAER.

This requirement is operative in the South Coast Air Quality Management District and all other non-attainment areas and should be continued.

Addition of paragraph 172(d)(1)(G) [p.5]

Requires RACT in attainment areas that impact non-attainment areas.

This appears to be a reasonable requirement. California is not significantly impacted by any attainment areas in other states. It is our understanding that areas in the mid-west and eastern seaboard do have this problem and it would be most appropriate if they provide suggestions for the solutions to this problem.

Addition of paragraph 172(d)(1)(H) [p.5]

> *Requires the application of other control measures needed to attain by the end of 1992. An exception is made in the following subsection, 172(e).*

Since a special allowance is made in subsection 172(e), we see no problem with this addition. An exception is definitely needed since attainment in the South Coast Air Basin is impossible to achieve in the next five years by any reasonable method. At a minimum, it will take 20 years to achieve standards in the South Coast Air Basin and attainment at this fast a rate will require the forcing of presently undeveloped technology.

To attain standards in the South Coast Basin, reactive organic compound emissions must still be reduced by at least 75 percent, and NO_x and CO by at least 50 percent, over the reduction achieved to date. It should be recognized that the South Coast already has the tightest auto emission standards in the nation, stage II vapor recovery already is in place, and generally the tightest stationary source regulations in the nation have been required.

Addition of paragraph 172(e)(1)(A) [p.6]

> *This paragraph allows an extension of attainment beyond the end of 1992 if implementation of all the previously-required control measures and other reasonably available measures will not result in attainment.*

As stated earlier, this is a much-needed extension.

Addition of paragraph 172(e)(1)(B) [pp.6-7]

> *This paragraph requires areas where the ozone standard is exceeded by more than 50 percent but less than 125% to be automatically designated as a post-1992 attainment area with attainment required by 1997. It allows a reprieve for areas that can demonstrate that the standard can, in fact, be met by the end of 1992, albeit their monitored levels are greater than 50 percent above the standard. Attainment dates are set for various post-1987 non-attainment areas. If the ozone standard is exceeded by more than 125 percent, attainment is required in 2002.*

The automatic designation provided for in this paragraph is good in that it forces the more polluted areas to implement the more restrictive control programs immediately. Otherwise, those tougher control programs could end up getting delayed while waiting on the development of the area's SIP or the arrival of 1992.

This paragraph also allows the more heavily polluted areas to model out of the stricter requirements if attainment can be demonstrated by the end of 1992. Although such a provision seems rational, it will encourage some areas to make false demonstrations of 1992 attainment in order to avoid the more stringent control requirements. A diligent EPA can minimize such occurrences, but they did not, in many cases, in 1982. Congress may want to consider placing some special demonstration requirements on areas that attempt to model out of strict control requirements.

Finally, this paragraph sets attainment dates for the various post-1987 non-attainment area. It is properly recognized in these revisions that the more polluted areas need a longer time frame in which to come into compliance. A fifteen-year time frame is provided for for areas with ozone design values greater than 125% above the standard. As written, this provision only applies to the South Coast Basin. While the South Coast District is not opposed to the concept of deadlines, it is opposed to unrealistic deadlines. The original Mitchell bill resulted in a twenty-year attainment program for this Basin. Attainment in this time frame, as pointed out in District testimony, requires the application of technology that is presently unknown. However, a twenty-year attainment program allows ten years to develop new technology and ten years to get it into place. For example, it takes ten years to turn over the automobile fleet. A fifteen-year attainment program does not provide for an adequate time frame to develop the needed technology and then get it implemented in many cases.

Addition of paragraph 172(e)(1)(C) [pp.7-8]

> *This paragraph provides an exemption for Rhode Island from: transportation control measures, mandated emissions reductions, and stationary source emission fees required by this bill for 1992 regional extension areas. This exemption applies if attainment can be demonstrated in that area using the baseline regional control measures required elsewhere in this bill.*

This exemption offers a chance for one non-attainment state to avoid many of the control requirements required for non-attainment areas. This is another invitation to model out of strict control requirements. In 1982, many areas argued that they should not have to adopt I/M because they would attain without it as demonstrated by their modeling. I/M programs ended up being delayed and attainment was not achieved.

Addition of paragraph 172(e)(2)(A) [pp. 8-9]

> *Requires the offsetting of the growth in vehicle miles or the emissions associated with such growth.*

To accomplish this, a series of eight transportation control options must be included in the area's SIP or an explanation submitted in the SIP, along with the identification of another control measure that will achieve equivalent results. Achieving no growth in emissions from transportation and area sources in an area that is growing like Southern California will be very difficult. Most of the potential growth in transportation and area sources is already built into the present population base. However, if adequate progress is to be made, the continuing growth in transportation and area sources in Southern California must be dealt with. The methods outlined in paragraph 172(e)(2)(A) include the key ways to address the driving growth problem.

Addition of paragraph 172(e)(2)(B) [pp.9-11]

> *This paragraph requires, in 1992 extension areas, specified total reductions by the end of 1991 (33%), 1994 (50%), 1997 (65%), and 15% every three years thereafter until attainment. The required reductions are based on the 1987 or most recent EPA-approved inventory. The calculation of the required reductions includes organic compounds, nitrogen oxides, and carbon monoxide. Later on in the bill there is a provision which allows for the reporting of reductions on a three-year basis. In addition, areas are allowed to use a lesser percentage reduction if 1997 attainment can be demonstrated using the lesser amount.*

This aspect of the revisions is one of the most unique. The 1977 amendments required "reasonable further progress," but this has received little emphasis from the EPA. The 1977 version failed to specify the rate of progress.

We support the concept embodied in these amendments. Congress should adjust the minimum required reductions to be technology-forcing, but feasible. A specific date for the base inventory should be selected. The open-endedness in the present bill with respect to the base inventory will allow some "game-playing." We suggest that 1986 be selected as the base year. This will allow time to establish a quality inventory. (Many 1982 SIPs used 1978 or 1979 base inventories.) Using 1986 will also allow areas to claim credit for their most recent control strategies. The South Coast District has been and is continuing to implement emissions reductions strategies beyond those required in other areas, and should be allowed some credit for these newer controls.

In virtually all inventories in non-attainment areas, 80-95% of carbon monoxide emissions are caused by motor vehicles. The only way to meet required annual reductions is by reducing motor vehicle emissions. The key to these reductions are federal standards and durability requirements, and local I/M and transportation controls. If better I/M is achieved beginning in 1989 and growth emissions are controlled as specified in these amendments, substantial reductions appear achievable in the South Coast Basin through 1995. After that, tighter vehicle emissions standards as envisioned in this bill will be needed to sustain progress. Under this scenario, the South Coast Basin may achieve attainment in 1997, but we'll need better modeling to verify this prediction. The ability to select a lower emissions reduction requirement if attainment can be reached by 1997 should allow us to comply.

An attached Table illustrates the known range of control options and their emissions reduction potential for reactive organic gases and nitrogen oxides. We investigated two control scenarios. Scenario One represents what we see as an optimistic/realistic view of the emissions reduction potential. Scenario Two represents an upper bound as to what could be accomplished with presently-known technology.

The predictions involve the three checkpoint years associated with emission reduction goals: 1991, 1994 and 1997. With regard to 1991, we believe we can reduce NO_x/ROG emissions by 26-35%. This is better than the 22% expected in the original bill, and is in the range of the 33% expected in recent amendments.

With regard to 1994, we can reduce NO_x/ROG emissions by 33-43%, making attainment of the original Mitchell bill 1994 goal of 39% marginally possible. But, based on current information, it will be impossible to reach the 50% reduction required in the recent amendments. This is because the 1994 date sets an unreasonable time period--only seven years--to develop and implement new technology needed for compliance.

With regard to 1997, present technology will allow us to reduce NO_x/ROG emissions by 38-46%, which meets neither the original Mitchell bill nor its amended goals. Although we supported the original goal of 53% reduction, we explained at the time that new, presently-unknown technology would need to be developed to enhance controls to this level. We indicated a willingness to launch out on faith to raise control expectations from 38-46% to the desired 53%.

The present amendments increased the reduction requirement to 65%. This means in the next 10 years we must enhance the maximum 1997 reduction schemes outlined in the Tables by 41-70%. We do not consider this attainable even with the most optimistic view of what new technology could be realistically developed and implemented in the next decade.

We suggest two possible alternatives. One, return to the original Mitchell bill expected reductions. Or, two, allow areas to take credit for certain advanced control requirements that were implemented prior to 1986, such as:

Stage II vapor recovery and gasoline volatility standards,
stricter auto standards, and
application of SCR.

The bill as presently written is unclear as to whether an area like the South Coast Basin is required to achieve the 33/50/65% reductions in NO_x or the annual 5% rate if the NO_x standard can be achieved by 1997, but the ozone standard cannot. It is doubtful that the NO_x emissions need to be reduced by more than 50% since all federal and state NO_x standards, as well as the federal PM_{10} standard and the ozone standard, can be met with a 50% reduction in NO_x emissions. This should also suffice to address the NO_x portion of the acid rain problem.

Addition of paragraph 172(e)(2)(C) [p.11]

> *Requires reductions in emissions from sources in 1992 extension areas based on their 1987 emissions or most recent EPA-approved inventory. By the end of 1991, 1994, and 1997, each major source must achieve a reduction in emissions at least equal to the percentage required for the area under paragraph 172(e)(2)(B). Credit is authorized for reductions to achieve compliance with 1982 and later requirements. The penalty for not achieving the required reductions is an emission fee as defined later.*

The present regulatory system pits the regulated industry against the regulators in a struggle that rewards the industry for reducing control requirements. The system needs to be modified to make it less beneficial for stationary sources to evade control requirements. Paragraph 172(e)(2)(C) provides one approach to fulfill this need.

The baseline date selected for stationary source reductions should be the same as that selected for the overall inventory. 1986 has been suggested as a good year for this purpose.

The allowance for the crediting of RACT added between 1982 and 1986 towards the mandatory reductions should not be allowed since that was expected as part of the 1977 amendments. Controls on sources in existence before 1982 which have added controls since 1982 that are presently in excess of RACT for the area in question should receive credit. Also, sources which are controlled to the lowest achievable emission rate (LAER) should not be required to control further since there are no known additional controls. As LAER is further tightened, these sources should be brought back into the annualized emissions reduction process.

The need for the stationary source carbon monoxide reductions is unnecessary since they contribute so little to the problem. The new RACT required in this bill should provide adequate reductions for this segment of the emissions.

Addition of paragraph 172(e)(2)(D) [pp.11-12]

Requires a fee of at least $100 per ton be charged to stationary sources of hydrocarbons, oxides of nitrogen, or carbon monoxide to commence no later than 1993.

This concept is already in practice in the South Coast Basin. Fees charged are as follows:

Pollutant	$ per ton
Reactive Hydrocarbons	241.
Nitrogen Oxides	139.
Particulates	184.
Sulfur Oxides	167.
Carbon Monoxide	2.10

The smaller amount charged for carbon monoxide is due to its relatively lower toxicity. The carbon monoxide rate proposed in the bill should be adjusted to a lower amount. In addition, the language should make it clear that these fees are in addition to locally-collected fees or that they are not required where a local program charges fees that are equal to or greater than the amounts specified in this paragraph.

Addition of paragraph 172(e)(2)(E) [p.12]

Requires the adoption and enforcement of an excess emissions penalty for sources that fail to achieve their required emissions reduction. The amount of the fee is defined in paragraph 172(e)(3)(A) later in the bill.

This is the appropriate sanction for failure to meet the defined reduction increments. In essence, this is an emissions fee program limited to sources not adequately participating in an area's clean-up process.

Addition of paragraph 172(e)(2)(F) [p.12]

Requires a binding commitment by the State transportation agency and all local public transit and transportation planning agencies to support transportation projects consistent with the SIP and to not support transportation projects inconsistent with the SIP.

It is necessary that all agencies of state and local government participate in the community clean-up process. This language helps to insure that participation. Thus we support the concept. There may be some problems with the authority of the prescribed agencies to make such "binding" commitments.

Addition of paragraph 172(e)(3)(A) [p.12]

Requires that the excess emissions penalty charged to sources which do not attain their defined emissions reduction goals be set at the cost commensurate with avoiding control. This paragraph requires also that the fee not be less than $5,000 per ton and that the charges be on the emissions in excess of the defined emissions reduction.

This paragraph is consistent with the goals of paragraphs 172(e)(2)(C) and 172(e)(2)(E). The fee should be high enough to actually be a deterrent. The fee defined in this paragraph meets this requirement and as such we support it.

Addition of paragraph 172(e)(3)(B) [p.13]

> *Provides that the excess emissions fee goes to the agency of government which is collecting the fee and that that fee is to be used in air pollution clean-up efforts, including the funding of improvements to public transit.*

This is an appropriate way of distributing the funds and we support it.

Addition of language to paragraph 171(1) [p.13]

> *Technical changes that make these additions to the Clean Air Act consistent with the old act in that compliance with the aforementioned additions and Section 173 constitutes reasonable further progress as defined in the 1977 amendments.*
> *Requires compliance reports at least every three years.*

These changes are necessary.

Addition of language to Section 173 [pp.13-14]

> *Requires 2:1 offsets for 1992 extension areas for sources emitting 25 tons/year or greater.*

The present offset program in the South Coast Basin requires up to 1.5:1 offsets. Any offset system should be designed to force new sources to attain offsetting emissions reductions in excess of those defined in an attainment SIP. The requirement of 2:1 offsets for major sources would help with the process just described. The South Coast Basin has had some problems in keeping new and modified sources from interfering with the clean-up process and is presently revising its offset rules.

Amendment of paragraph 110(c)(1) [p.14]

> *Revises the time allowed for the EPA to publish a plan for a state, or revise a deficient SIP, from 6 months to as expeditiously as possible*

We do not understand the need for this change. However, it should be noted that the EPA has been unjustifiably slow in dealing with proposed SIP revisions. To remove a deadline seems like the wrong way to go.

TECHNOLOGY REQUIREMENTS AND DEFINITIONS FOR NONATTAINMENT AREAS

Amendment of Section 171 and paragraph 107(d)(5) [pp.14-20]

> *Defines technology requirement terms and specifies requirements of the Act relative to technology. Requires the EPA to publish control technique guidelines on 11 source categories.*

The South Coast District is concerned that Sec. 171(3), by allowing as a minimum the average of the highest 10 percent of emission sources in the category could result in a weakening of LAER over that otherwise required by Sec. 171(3). Although local agencies could require the higher level, there appears to be a cumbersome administrative burden on the permitting agency to demonstrate that the higher level is attainable.

The definition of "major stationary source or major emitting facility" under Sec. 171(5) should be expanded to include any source or facility whose total emissions are 25 tons per day or more. This will provide for major source categorization on the basis of cumulative as well as single pollutant thresholds and will prevent some significant emission sources from evading more stringent requirements by staying below the single pollutant thresholds.

We disagree with the Sec. 171(5) exemption of resource recovery facilities from the definition of stationary source. These facilities have proven to be major sources of emissions in the South Coast Air Basin. We believe they should be subjected to the same offset requirements as all other projects.

We would support the determination of RACT in Sec. 171(6) at the local level. We would recommend that the reference to "toxic character" either be deleted from nonattainment act requirements or that there be clarification as to whether a finding is required that consideration has been given and action either taken or declined relative to the "toxic character." As written, it provides little guidance to permitting agencies. We would support language that makes cost-effectiveness only one of the criteria to be used in determining RACT.

The South Coast is supportive of all the inspection-maintenance requirements of (7), particularly inclusion of diesel particulates, annual emission testing, and raising the repair cost limits. We also believe that loaded-mode testing should be considered. These changes are all under consideration in California.

OZONE TRANSPORT REGIONS

Adds new Sec. 178 for ozone transport regions and amends Sec. 106 [pp.20-23]

These sections do not apply to the South Coast Air Basin. However, there are intrastate transport problems equivalent to the interstate problems being dealt with here. In California, there needs to be a mechanism that allows the state to deal with its transport problems in a manner similar to that provided for states in this bill.

SANCTIONS

Amends paragraphs 110(a)(2)(I), 176(a), and 176(b) [pp.23-27)

Specify conditions under which sanctions could be imposed

Attainment of air quality standards requires actions by many levels of governments. The District would support sanctions which are directed at any level of government which fails to take actions required by the Act or to which they have committed in the SIP. As nearly as possible, the sanctions should not be applied indiscriminately against communities which have taken all appropriate steps to reduce emissions, but were not able to achieve their overall goal, because of the absence of federal or state actions.

TECHNICAL AND PLANNING ASSISTANCE

Adds three subsections to Sec. 175 [p.27]

Authorizes grants for states and non-profit organizations for reasonable costs of plan revisions and technical assistance.

The South Coast District supports federal assistance for plan preparation. The language should specifically authorize the allocation of this money to the designated local SIP planning agencies in each state. Moreover, these funds must be actually dispersed in order to ensure that local SIP planning agencies will have adequate monies to develop and implement the mandated SIP revisions.

OUTER CONTINENTAL SHELF

Adds Sec. 129, amends Sec. 110, and makes a corresponding change to the OCS Lands Act [pp.28-30]

Regulates emissions emanating from activities on the OCS. Includes the provisions of S.235 which the District sponsored.

The District supports all the provisions relating to OCS development which bring this source of emissions under control. This has, of course, been a major concern of all coastal air pollution control districts in California.

TITLE II -- Acid Deposition Control (Based on S.321) [pp.30-57]

TITLE III -- Mobile Source and Other Federal Controls

VEHICLE EMISSION STANDARDS, ASSURANCE OF IN-USE COMPLIANCE, AND REGULATION OF FUELS

Amends Sections 202, 203, 205, 206, 207, 209, and 211 [pp.57-70]

Specifies new vehicle emissions standards, emissions performance requirements, and motor vehicle fuel specifications, including the oxygen content of gasoline.

We strongly support the motor vehicle provisions contained in Title III with one exception. The proposed Sec. 211(h) should be amended to require low aromatic content and low volatility for diesel fuel in lieu of the .05 percent by weight sulfur limitation. By going to a 5-10 percent aromatics and 500°F backend volatility specification, the sulfur content of the fuel is reduced to .01 percent by weight or lower. In addition, elemental carbon (soot) and NO_x emissions are decreased during fuel combustion.

We would also note that there are several proposed requirements contained in Title III which are essential to providing clean air in the South Coast Air Basin. These are:

- A 0.25 gram per mile hydrocarbon standard (Sec. 202(b)(1)(A);
- On-board hydrocarbon control technology requirement for fugitive emissions (Sec. 202(a)(6)). Since California already requires Phase II vapor recovery in the major urban areas, the principal importance of such controls is to reduce "diurnal" and "hot soak" evaporative emissions on high temperature days; and
- Assurance of in-use compliance to 10 years or 100,000 miles (Sec. 202(d)(1)).

Lastly, we would recommend a mandate that would direct vehicle manufacturers to produce alternative fueled vehicles before the end of this century.. Such a requirement could establish a phase-in of methanol, electric, or other clean fuel technology.

FEDERAL HYDROCARBON EMISSION CONTROLS

Adds Section 130 and amends Sec. 116 to correspond [pp.71-72]

Requires Administrator to promulgate national regulations governing specified solvents and coatings

We strongly support national emissions limitations for the sources listed in Sec. 130(a). Because few of these categories are manufactured locally, they can best be controlled at the national level rather than trying to enforce limits on sale or use. Further, national limits would be equitable to all major users of solvents and coatings, particularly aerospace and military contractors, which must meet national requirements and be able to compete in national and international markets.

We recommend adding unregulated mobile sources to this category. These sources include construction equipment, lawn and garden equipment, etc.

Finally, we are concerned that national RACT limits may not be technology forcing. Only through continual ratcheting down of these sources to zero or near-zero emissions will the South Coast Basin be able to approach the targets of the Act. We would, therefore, recommend that LAER or regularly updated reduction targets be substituted for RACT. In addition, manufacturers of solvents and coatings should be required to conduct research and development programs with the goal of reducing present LAER limits by at least 50 percent. Further, we are not clear how the proposed definition of RACT in Sec. 171(6) would apply at the national level.

* * *

TEXAS
OZONE
TASK
FORCE

Chairman
L. B. Feldcamp
713-229-1573

Vice-Chairman
W. F. McGuire

Vice-Chairman
C. W. Rivers

August 5, 1987

The Honorable Quentin N. Burdick
United States Senate
Washington, D. C. 20510

Dear Senator Burdick:

This letter presents comments by the Texas Ozone Task Force with regard to the Clean Air Act legislation presently being considered by the Senate Committee on Environment and Public Works. These comments were prepared to demonstrate the potential effects these legislative concepts could have on the air quality, social structure and economy of Texas and specifically the Houston, Texas area.

Members of the Texas Ozone Task Force include the City of Houston, Harris County, the Houston Chamber of Commerce, the Houston Regional Monitoring Corporation, and several other public and private sector organizations. The Task Force was formed to seek creative and pragmatic approaches to respond to the enduring ozone nonattainment problems facing several Texas areas. Presently, its primary focus is the Houston area. Houston currently meets the ambient ozone standard more than 99 percent of the time. However, by the end of 1987, Houston, along with some 70 other cities, will be considered in nonattainment and subject to a series of Federally mandated sanctions. Congress is now considering what potential changes to the Clean Air Act are appropriate to respond to this national dilemma.

The Texas Ozone Task Force believes that changes should be made to the current law. After years of extensive ozone monitoring in the Houston area, it is convinced that efforts which continue to utilize the current ozone control strategy are counterproductive and ineffective. While there are clearly some well defined regulatory steps that need to be implemented in the next few years, further action must be predicated on some sound scientific analysis that demonstrates that future controls will be effective in reducing ozone. Failure to follow such a path will result in potentially enormous national economic harm, substantial

1100 Milam, 25th Floor
Houston, Texas 77002

public rejection of Federally imposed efforts to force lifestyle changes, and continued inability to meet the air quality standard. The Texas Ozone Task Force believes that progressive and creative modifications to the Clean Air Act can be made, and it is willing to fully participate in efforts to find well structured changes.

It is from this perspective that the Texas Ozone Task Force has reviewed the nonattainment provisions adopted by the Senate Environmental Protection Subcommittee. It is from this perspective that we find these provisions both frustrating and disappointing. Creative action needs to be taken to respond to the problems of ozone nonattainment. Yet, the Subcommittee bill casts the issues so that the opportunity for reasoned discussion is lost. Because the starting point is so far beyond the demands of current law, it is too easy to discard the whole effort rather than attempt to bring it to a fruitful conclusion. While the apparent purpose of this legislation is to respond to the clear realization that numerous areas will not be able to meet the ozone and carbon monoxide ambient standards and will be potentially subject to sanctions, the Subcommittee has adopted provisions where the basic requirements are more onerous and more regressive than the sanctions under the current law. Such an approach is hardly an useful or progressive addition to the public policy debate on the need for clean air.

Moreover, the Texas Ozone Task Force is convinced that the Houston area will inevitably fail to meet the requirements of the Subcommittee bill. If an area, like Houston, is going to be sanctioned under current law or under this bill, current law is less catastrophic. Under current law, the new definitions of stationary source, inspection/maintenance, Reasonably Available Control Technology, and Lowest Achievable Emission Rate that are in the Subcommittee bill would not be implemented. Under current law, the legislated requirements in the Subcommittee bill for Stage II vapor recovery, alternative fuels, transportation controls, stationary source reductions, and excess emissions fees would not be implemented. Under current law, the sewer hook up sanction does not exist and the construction ban is less onerous.

For these and other reasons which are detailed in the attached comments, the Texas Ozone Task Force must conclude that adoption of this bill would be a potentially devastating blow to the United States economy and the Texas economy. It would raise issues of Federal land use controls, economic uncertainty, and international competitiveness. But, would it resolve the environmental problems? It is doubtful that this format will produce that result. Most of the grand schemes will fail and sanctions will be imposed in those enduring nonattainment areas like Houston which need to be addressed by creative approaches.

In conclusion, the Texas Ozone Task Force believes that progressive and pragmatic approaches can and should be developed to respond to the enduring problems of ozone nonattainment. This bill is not such an approach. More effort needs to be made and the Texas Ozone Task Force is prepared to be a part of that effort.

Very truly yours,

TEXAS OZONE TASK FORCE

By: Larry B Feldcamp
Larry B. Feldcamp

LBF:16
Attachment

COMMENTS
OF
TEXAS OZONE TASK FORCE
ON
MARKUP DOCUMENT
ADOPTED BY THE
SUBCOMMITTEE ON ENVIRONMENTAL PROTECTION
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

INTRODUCTION

This document presents an assessment of the Subcommittee Bill with regard to the provisions dealing with ozone nonattainment. It is submitted on behalf of the Texas Ozone Task Force. The Texas Ozone Task Force is comprised of members from both the public and private sectors of Texas. Currently, its membership includes: the City of Houston, Harris County, the Houston Chamber of Commerce, the Houston-Galveston Area Council, the Texas Chemical Council, the Texas Mid-Continent Oil and Gas Association, and the Houston Regional Monitoring Corporation. It has been formed to address the complex problems of nonattainment with the national ambient air quality standard for photochemical oxidants (ozone) that affect many areas of the United States. Areas of Texas affected include Houston, Dallas, Fort Worth, El Paso, Galveston, Longview, Beaumont, and Port Arthur. Although the Texas Air Control Board is not a formal member of the Texas Ozone Task Force, the Texas Ozone Task Force has worked closely with members and staff of the Texas Air Control Board in analyzing the ozone nonattainment problems in Texas and in addressing progressive control strategies to move toward attainment of the national ambient air quality standard for ozone.

Based on the extensive efforts conducted by members of the Texas Ozone Task Force, which are detailed elsewhere in this document, the Texas Ozone Task Force believes that, to be effective, modifications to the Clean Air Act must address the complexities of ozone formation while providing for improvement in air quality within the constraints of present knowledge. These modifications must be accomplished in such a way as to prevent social and infrastructure disruption and preserve and enhance the position of the U. S. in the highly competitive world market. An outline of a methodology to achieve such a goal is provided, in addition to specific comments on the proposal at hand.

The following points summarize the experience and knowledge of the members of the Texas Ozone Task Force, which provide the basis on which our comments and recommendations are made:

> **The EPA control strategy has failed to achieve the expected results in the Houston area.** In spite of hydrocarbon emission reductions in excess of those determined to be required during the 1982 State Implementation Plan process, no improvement in ozone compliance status has been achieved. Moreover, approximately one-third of the ozone excursions in the Houston area have been found to be during, or associated with, meteorological conditions no contemplated or dealt with in the current strategy.
>
> **Air quality in Houston is excellent based on monitoring of criteria pollutants.** The area meets the carbon monoxide ambient air quality standards, with most monitoring sites registering levels on the order of one-fourth of the standard. Concentrations of sulfur dioxide, and of nitrogen oxides, an ozone precursor, are approximately one-third of the standard. Only ozone is at issue with the standards.
>
> **The ozone nonattainment issue is perceived as more intense than it actually is.** Extensive monitoring of the Houston area finds that compliance is achieved more than 99 percent of the time. Moreover, an

exceedence results in ozone in excess of the standard in only a small portion of the community--it is not an area-wide event.

BACKGROUND

In his opening statement during hearings on S.1351, Senator Mitchell made the following statement:

> To those who argue that the milestones are too tough for attainment in five or ten years, I ask: "When do you plan on complying with the law?"
>
> To those who say they should not be responsible for reductions, I ask: "Who will control their emissions if you do not control yours?"

For Houston, in response to the first question, no credible scientist can say when the ozone standard can be met. No one in Houston wants to violate the ozone standard, but despite 15 years of effort exacting hundreds of thousands of tons of volatile organic compounds emission reductions, ambient ozone concentrations have not responded with the projected results. With regard to the second question, Houston has controlled emissions. There are virtually no other areas of the country, with the possible exception of Southern California, that are as rigorously regulated. No one can realistically claim that Houston hasn't made the effort; there are few control options left.

The Texas Ozone Task Force would suggest that the critical questions to be addressed are:

> How should a law be drafted to recognize the clear complexities of nonattainment and to continue progress toward attainment of the ozone standard?
>
> How should such a law recognize the legitimate needs of areas to sustain their economic vitality while protecting public health?
>
> How should such a law recognize the need for this country to improve its international competitiveness?

The Texas Ozone Task Force has reviewed the nonattainment provisions adopted by the Environmental Protection Subcommittee. It is from this perspective that we find these provisions both frustrating and disappointing.

To put these comments in the proper context, it is necessary to describe some of the efforts that have been underway in Texas to understand and respond to the problems of approaching attainment of the ozone standard. While most of the detailed information presented in this testimony is related to the Houston area, it should be understood that Texas cities have aggressively and actively pursued attainment of the ozone standard for the past 15 years in response to the mandates of the Clean Air Act of 1970 and the Clean Air Act Amendments of 1977. However, because the Houston experience calls into question the existing control strategy, for those cities which do not now meet the standard there is no clear path which will guarantee attainment.

Houston is perhaps the most monitored area in the nation for ozone. And yet, the information these monitors have yielded has produced more questions than answers, more confusion than clarity. Both the Texas Air Control Board (TACB) and the City of Houstoh have placed ambient air monitors around the Houston area. Additionally, Houston industry has created one of the most comprehensive monitoring networks in the country, the Houston Regional Monitoring Corporation (HRM). Industry organized HRM to develop a comprehensive monitoring network that could be utilized by all Houston area member companies for permitting purposes. HRM contracted with Radian Corporation to develop and operate the network. The monitoring network was developed in consultation with the Texas Air Control Board and the Environmental Protection Agency and approved by both agencies.

The HRM network began operation in August, 1981, with 12 continuous monitoring stations located in the heart of 900 square miles of the Houston industrial complex. In August, 1984, the HRM network was modified to be more focused on ozone. A tight quality assurance and control program has been in place since the inception of the monitoring network and has resulted in data collection well above EPA standards.

Failure of Current Ozone Control Strategy--At issue in Houston is the failure of the EPA control strategy to achieve the expected results in controlling ambient ozone. Demonstrations of attainment with ozone standard during the State Implementation Plan (SIP) process are made using EPA developed models which project levels of volatile organic compound (VOC) reductions that are necessary to reduce ambient ozone levels to the standard. In the SIP process that took place in 1982, these models indicated that the Houston area needed to reduce volatile organic compound emissions by 41 percent. Corresponding reductions are estimated to total 45 percent by year end 1987.

Unfortunately, ozone formation has not responded to the achieved emission controls.

The pivotal issue that the millions of monitored data points and thousands of hours of analysis have identified is: an effective control strategy to attain the ozone standard in Houston has yet to be discovered. Real reductions in emissions have occurred, but corresponding changes in ozone have not (see Appendix B for supporting data).

A partial explanation of the failure of the control strategy lies in the inability of the present strategy to account for all meteorological conditions surrounding ozone formation. A statistical analysis performed by Radian Corporation for HRM, and discussed more fully in Appendix B, identified meteorological conditions responsible for the occurrence of high ozone episodes, and classified the conditions into three types of meteorological categories that accounted for the days in the study period on which the ozone standard was exceeded. The work specifically identified active meteorological conditions which are not accounted for in the control strategy, such as major upper air troughs and frontal systems, as being associated with the highest ozone episodes. This conclusion was developed further by detailed case studies of selected episodes of elevated ozone concentrations. Meteorological occurrences not accounted for in the current control strategy are associated with about one-third of the measured ozone excursions in the Houston area.

Houston Ozone Air Quality--The ozone nonattainment problem may be perceived as more intense than it actually is. Because EPA counts any violation of the standard as an exceedence day, Houston appears to have a greater problem than other measures would suggest. HRM data for 1986 would calculate 50 exceedence days, about 13 to 14 percent of the days of the year. However, a closer examination of the data shows that the highest reading HRM monitor exceeded the standard only 66 hours in 1986, about 0.75 percent of the time. Similarly, the highest City of Houston monitor exceeded that standard only 35 hours in 1986, about 0.40 percent of the time; the highest Texas Air Control Board monitor exceeded the standard only 48 hours in 1986, about 0.55 percent of the time. Thus, looking at all the monitoring sources in Houston, the area complies with the ozone standard more than 99 percent of the time. Moreover, an exceedence usually results in ozone levels over the standard in only a small portion of the community--it is not an area wide event.

SUPPORT FOR CHANGE

The Texas Ozone Task Force believes that changes should be made to the current law and it is willing to fully participate in efforts to find well structured changes. Following are a series of general recommendations that address its concerns.

Air Quality Standards--If attainment of the ozone standard can be done--and there is no guarantee that attainment is possible in many areas of the country--it will be done at great social and economic costs. If Congress wants to impose these costs, the Texas Ozone Task Force believes that, at a minimum, some additional attention needs to be devoted to the nature of ozone risks to public health and the nature of the national ambient air quality standard. Moreover, progress toward attainment should be based on criteria other than absolute attainment, such as hours of exposure. Exposure and geographical impacts should be determined through improved ozone monitoring, with appropriate federal funding support to the States. Increased measurements of hydrocarbons and other precursors should be performed to improve modeling efforts.

Sources Subject to Control--All source categories should be understood and controlled relative to their contribution to ozone formation. Even with their limitations, computer models still should be utilized in determining the relative contribution of sources to ozone formation.

Proposed Control Strategy--The control strategy should be designed to address the enduring ozone nonattainment issue. It should be structured to deal with the complexity of controlling a secondary pollutant formed from complex chemical interactions of precursors while recognizing regional differences and the longstanding national commitment to progress toward attainment, which should not be reversed.

To do so effectively, our knowledge and understanding of ozone formation in general, and the differing specific needs of each region must be expanded, and special meteorological conditions indicative of each region taken into account. In areas such as Houston, few existing control technology options exist. Therefore, adequate time and attention must be expended so that new control information can be developed via the rulemaking process. During this period, the use of additional reasonable controls such as expanding new source review to more sources, and use of appropriate enhanced vehicle inspection and maintenance requirements to achieve overall hydrocarbon emission reductions could be initiated.

For those limited areas of enduring nonattainment, regional ozone control strategy studies should be conducted. The results of these studies would provide the basis for meaningful, effective, and reasonable revisions to control plans so that achievement of the ozone standard could be achieved effectively and expeditiously.

Finally, the sanctions concept should be redirected to actions that are controlled by EPA and state regulatory agencies, and not on conditions beyond the capabilities of current science to predict.

Permitting--Mechanisms and procedures for the use of emission reduction credits by new or modified sources should be preserved. The permitting process should encourage construction of new facilities to replace or upgrade existing facilities.

ANALYSIS OF SUBCOMMITTEE BILL

Creative action needs to be taken to respond to the problems of ozone nonattainment. Yet, the Subcommittee Bill casts the issues so that the opportunity for reasoned discussion is lost. Because the starting point is so far beyond the demands of current law, it is necessary to discard the whole effort rather than attempt to bring it to a fruitful conclusion.

At this critical time in the nation's effort to achieve clean air for its citizens, the opportunity exists to embrace a new, pragmatic approach to these perplexing ozone nonattainment problems. Instead Titles I, III, and

IV of the Bill have produced an amalgamation of individually considered agenda items that are internally inconsistent and contradictory. The Texas Ozone Task Force has thoroughly reviewed the Subcommittee adopted provisions, and is convinced that the Houston area will inevitably fail to meet the requirements of the Subcommittee bill. Specific comments on various provisions of Titles I, III, and IV are included in Appendix A and a comparison of current law and the Subcommittee Bill on a number of key provisions is included in Appendix C.

While the apparent purpose of this legislation is to respond to the clear realization that numerous areas will not be able to meet the ozone and carbon monoxide ambient standards and will be potentially subjected to sanctions, the Subcommittee has adopted provisions where the basic requirements are more onerous and more regressive than the sanctions under the current law. Such an approach is hardly a useful or progressive addition to the public policy debate on the need for clean air.

1. The current law definition of stationary source is set at 100 tons/year (40 tons/year for a major modification); this bill sets the definition at 25 tons/year (10 tons/year for a major modification). Current law allows netting; this bill forbids it. Current law requires a minimum of equal offsets for new sources, thereby providing real incentive for new construction. This bill requires two for one offsets for a lower source threshold on a drastically reduced base. Thus, the basic requirements of this bill are far more devastating to economic growth, even before sanctions.

2. While current law requires inspection/maintenance (I/M) programs, they are required only for the pollutants in nonattainment and are developed for each area. This bill would require I/M programs for four pollutants regardless of which ones are in nonattainment and the program requirements are legislatively mandated. Current law does not require I/M for nitrogen oxides; this bill requires nitrogen oxide I/M in a manner that could cost several hundred dollars per test. Current law allows the use of decentralized I/M programs; this bill would require existing decentralized I/M programs to be scrapped. Current law allows cost effective elements of vehicle fleets to be tested; this bill requires all vehicles to be tested, which is totally unreasonable. The current law I/M requirements are far more balanced in their demands on vehicle owners and in allowing states flexibility.

3. While the Reasonably Available Control Strategy (RACT) development process in current law is flawed, the RACT concept allows consideration of economic issues in determining the appropriate technology for a balance between environmental needs and economic needs. The RACT definition in this bill is designed to skew that balance away from, and possibly preclude, essential economic factors, despite the fact that current RACT in many instances is equivalent to lowest achievable emission rate (LAER) technology. Thus, current law allows for more balanced consideration than this bill.

4. Transportation control measures must be balanced against the realities of dealing with major social upheaval and changes in area infrastructure. The Subcommittee bill would discard these realities and drive transportation control measures with a social change engine solely based on ambient air quality. The current law clearly intends these such measures to be effective and reasonable.

5. Existing stationary source emission reductions under current law are largely structured within the RACT process and calls for annual incremental reductions. The proposed bill would require specific percentage reductions in each stationary source regardless of whether there is technology to achieve the reduction, regardless of what technology is currently used at the source, and regardless of what emissions reductions the source has already achieved. Failure to achieve the unachievable would result in excess emissions fees designed to strip away the essential cash flow needed to keep the facility operating. This approach is a formula for domestic economic failure.

6. Current law funding sanctions are changed in this bill primarily by the addition of a sanctionable event of failure to develop necessary State Implementatin Plan (SIP) requirements, comply with SIP provisions, or attain the National Ambient Air Quality Standard (NAAQS) by the specified date. The bill adds a prohibition on new sewer hook ups, expands the construction ban by lowering the source threshold and prohibiting netting, and legislates additional control measures such as Stage II vapor recovery, alternative fuels, transportation controls, and excess emissions fees which would likely trigger these sanctions. Such actions ultimately halt new construction, which dampens the infusion of new and innovative technology, and is contrary to the nation's efforts to enhance productivity.

CONCLUSION

For these reasons, the Texas Ozone Task Force must conclude that adoption of this bill would be a potentially devastating blow to both the United States economy, and the Texas economy. It forces economic uncertainty, and reduces international competitiveness. It is highly certain that this approach would not resolve the environmental problem. Most of the grand schemes will fail and sanctions will be imposed in those enduring nonattainment areas like Houston which need to be addressed by reasoned, scientific and creative approaches.

While the Texas Ozone Task Force cannot support the approach to nonattainment policy embodied in the Subcommittee Bill, it believes that progressive and creative modifications to the Clean Air Act can be made to nonattainment policy, and it offers its support and resources to an effort to find these modifications.

APPENDIX A

DETAILED ANALYSIS OF SUBCOMMITTEE BILL PROVISIONS

This Appendix provides a detailed analysis of various key elements of the adopted provisions of the Subcommittee bill.

RELATIONSHIP BETWEEN TITLE I AND TITLE IV

Title IV of this bill requires the EPA Administrator to promulgate new primary national ambient air quality standards for, among others, (1) an additional ozone standard that is "more protective" of public health than the current primary national ambient air quality standard which was promulgated to protect public health including an adequate margin of safety, (2) an additional primary national ambient air quality standard for nitrogen oxides, and (3) an additional primary national ambient air quality standard for carbon monoxide. The schedule for these new standards is:

POLLUTANT	TIMING
Ozone	Three years after enactment
Nitrogen Oxides	Four years after enactment
Carbon Monoxide	Two years after enactment

Title I of this bill requires States to determine whether they can meet the attainment date of December 31, 1992 no later than the time for plan submission of December 31, 1989. Consequently, Title I applies only to the existing primary national ambient air quality standard for ozone and carbon monoxide since the new standards would not be promulgated prior to action under Title I.

Therefore, plans to attain the new standards would be subject to the provisions of Section 110 of the Clean Air Act. Section 110 sets forth procedures for action to attain new standards. First, States have nine months to submit plans. Second, EPA must approve or disapprove plans in four months. Third, the plan must provide for attainment of the standard in three years or, under certain circumstances, five years. Thus, under Title IV, a State would have from seven to nine years from date of enactment to meet the new ozone standard and from six to eight years to meet the new carbon monoxide standard.

Even a casual observer would conclude that an area that cannot meet the current ozone standard is not going to meet a new "more protective" ozone standard and a high altitude area that cannot meet the current carbon monoxide standard is not going to meet a new high altitude carbon monoxide standard. Yet, under this bill an area which is in the ten year or fifteen year ozone nonattainment category would have to commit to all the burdensome and onerous provisions of Title I in order to avoid immediate sanctions only to discover three years later that it must meet a new standard in four more years--three years before the requirements of Title I.

These inconsistencies throw even more chaos and uncertainty into the deliberations that cities, counties, and states will be making to salvage some level of economic stability after the effects of this bill.

DEFINITIONS IN TITLE I

Before evaluating the specific requirements of Title I, it is useful to understand the definitional changes to Part D.

Lowest Achievable Emission Rate

Presumably the changes in this definition are proposed to attempt to enhance the extent of permit technology review and the rigor of new source permits. In reality the problem is that Lowest Achievable Emission Rate (LAER) is a flawed concept that cannot be modified to work in this application.

If Congress seeks effective new source technology reviews, it would be far more valuable to utilize the same Best Available Control Technology (BACT) definition from the Prevention of Significant Deterioration provisions of the Clean Air Act (Section 169(3)) and spend some effort to assure that BACT determinations are effectively distributed to state permitting agencies. In general, state permitting agencies do not have the resources to investigate allegations of more effective technologies rumored to be used in some far corner of the world as a part of the normal permit review. Similarly, permit applicants do not have the authority to obtain detailed technology information from other companies and, in many instances, are also resource limited--particularly in view of the new major stationary source definition.

Consequently, this bill's modification of the LAER definition will be useful to those whose objective it is to use environmental law to delay, postpone, and deter economic progress, but it will do little to effectively improve permit technology reviews.

Major Stationary Source

This provision changes the definition of major new sources from 100 tons/year to 25 tons/year and the definition of major modification from a net increase of 100 tons/year of carbon monoxide or a net increase of 40 tons/year of hydrocarbons and nitrogen oxides to 10 tons/year.

At the same time it adopts the so-called dual definition of a source. This dual definition provides that either a single source (e.g., tank, pump, vent) or an accumulation of sources (e.g., tank farm, pumping station, refinery) which exceed the 25 or 10 tons/year limit would be subject to the requirements of Part D of the Clean Air Act. If the purpose of such a definitional change was to assure that these smaller sources would be subject to a BACT review so that virtually all sources would have to meet a technology test, there would be some merit in such an application. Unfortunately, the implications are much broader.

1. It broadens the requirement for offsets to these smaller sources at a time when the other provisions of the bill are virtually eliminating any available offsets; for areas seeking 10 year and 15 year extensions, the offset requirement is twice the new emissions.

2. For existing sources, it incorporates these smaller sources into the mandatory annual individual source reduction requirements.

3. It subjects these smaller sources to $5000/ton and larger fines when they fail to meet these mandatory reduction requirements.

4. It expands to these smaller sources the existing theory of holding new, environmentally sound economic growth hostage to compliance of existing sources regardless of whether noncompliance is restricted to technical violations, to constitutionally protected issues of due process, or, if such a theory has any merit, to situations which represent a history of bad faith on the part of the permit applicant at its existing sources.

Reasonably Available Control Technology (RACT)

1. Definition--This definition is confusing at best. The term suggests that some balance is to be drawn in its use of the word "reasonable". Yet, this balance is absent in the definition. The definition is essentially "...the maximum degree of reduction of emissions...that the permitting authority determines is achievable for the existing source or class of sources...." The definition continues to list items that must be considered--"potential toxic character", "degree to which...area needs further reductions", and "achievability ... shall not be determined solely on the basis of the marginal cost per ton of pollutant removed". Contrast this definition to the BACT definition for new sources under Section 169(3) which requires the emission limitation to be "...based on the maximum degree of reduction of each pollutant subject to regulation under this Act emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility...." A literal reading of this RACT definition would suggest that the only factors to take into account are the ones listed.

   Clever lawyers could argue that since Congress specifically listed factors it wanted to be considered in the BACT definition and did not include the same factors here, Congress did not intend for energy and economic impacts and other costs to be included in the RACT determination. Existing sources could be compelled to meet more rigorous requirements than new sources--violating engineering and economic realities. This approach hardly seems to be a useful avenue for pollution control policy. It is particularly distressing because under the current RACT process there are several RACT requirements that are essentially equivalent to LAER requirements; these include some of the major source contributors such as volatile organic compound storage tanks and refinery/petrochemical fugitive losses.

2. Public Review--A second question arises regarding the nature of RACT determinations. The bill is abstruse regarding whether these RACT determinations will be subject to normal public review. There is no indication that these determinations will have to be justified, subject to public comment, and reviewable for fairness and accuracy.

Vehicle Emission Inspection and Maintenance Program

This definition is particularly troubling because of its apparent unreviewable discard of current Inspection/Maintenance (I/M) programs, its expansion of programs beyond the nonattainment problems of the area, and the potential excessive cost to individuals.

1. A literal interpretation of the definition would conclude that any nonattainment area covered by this bill (with a population of 100,000 or more) would be required to have a program for hydrocarbons, nitrogen oxides, carbon monoxide, and diesel particulates. Thus, even though an area may be in attainment for carbon monoxide and nonattainment for ozone, it would be required to have an I/M program for carbon monoxide. Current I/M programs are required only for the nonattainment pollutants. There seems to be little public policy reason to subject vehicle owners to the costs of I/M for pollutants that are not a problem.

2. Because the definition is written such that all the listed requirements apply to all the listed pollutants, these enhanced I/M programs would require annual emission testing for nitrogen oxides. Many experts indicate that the only meaningful nitrogen oxides emissions test requires a dynamometer. Costs associated with valid dynamometer tests can exceed several hundred dollars per test. There appears to be no justification for such a requirement based on a clear expectation that ozone would be reduced.

3. Under current I/M programs tested vehicles largely comprise the predominant segment of the vehicle fleet. Many current programs test the latest eight model years. This definition would require all vehicles regularly operating in the program area to be tested. Many older vehicles are owned by those on the most limited incomes. It is unclear that there is any benefit to requiring poor families owning 1970's vehicles to pay several hundred dollars for an I/M test followed by a repair cost of several hundred dollars when the percentage of these vehicles is so small in the total vehicle fleet.

4. This definition mandates annual emission testing, presumably tailpipe testing. There are experts who believe that new vehicle engine diagnostic tools are becoming so sophisticated that progressive I/M programs will be largely devised around these new tools. This will make current tailpipe emission testing obsolete. Yet, under this definition, tailpipe emission testing would have to continue.

5. Many current I/M programs utilize the service station dealer network to provide convenient testing availability. This definition would

> effectively preclude any extensive decentralized test program and substantially increase mandated costs for state and local governments by forcing the installation of expensive equipment that is potentially obsolete. Purposely discarding current programs without clear justification that they are not capable of meeting the environmental objectives of the Act is unwarranted.

Technological Requirements by Federal Government

There are two sections in the bill which require EPA to develop regulatory efforts for various types of source categories. In Title I, Section 102(d) requires EPA to publish control technique guidelines to establish RACT (as defined under this bill) for eleven categories of sources within two years of enactment and to revise all existing RACT control technique guidelines consistent with the new RACT definition within four years of enactment. If EPA fails to meet the legislated deadline each source must meet a 90 percent reduction from uncontrolled emissions. In Title III of the bill, Section 304 requires the EPA to promulgate regulations for six other categories of sources within two years of enactment. These regulations must address new sources and existing sources. Existing source standards must be at least equivalent to RACT (as defined by this bill).

Since both actions must be taken in the same time frame with regard to the 17 listed source categories, there is no apparent reason for these mandates to be defined in two different titles of the bill.

More importantly, there appears to be some distinction between the act of publishing guidelines and promulgating regulations. If the use of the term publishing is intended to circumvent the opportunity for public review and participation in the implementation of a RACT definition that can exclude all energy and economic factors and other costs, it would be improper and inequitable.

One of the great failings of the existing use of control technique guidelines is the prevention of a fair opportunity to address inadequacies in the development of these guidelines. Future actions, particularly in view of a legislative RACT definitions, can only be fairly conducted if these essentially regulatory efforts are exposed to the normal regulatory development process.

PROVISIONS OF TITLE I--GENERAL COMMENTS

A general review of the provisions of Title I reveals two troubling concepts. On one hand, it appears to perpetuate the presumptions of the current hydrocarbon based control strategy. The Texas Ozone Task Force must question the wisdom of assuming that a control strategy which has done so little for so many should be the basis for so much future national economic pain. On the other hand, Title I adds to the current hydrocarbon control strategy, an essentially equal nitrogen oxides control strategy. While it is true that ozone is formed by a reaction between hydrocarbons and nitrogen oxides, there is also considerable scientific evidence that the relative relationship between the two can influence the ultimate levels of ozone. Certain ratios of hydrocarbons and nitrogen oxides reduce the ozone formed; other ratios increase the ozone formed. Ozone formation science is not precise, but it does not suggest that the appropriate control strategy is an equal rollback of hydrocarbon and nitrogen oxide emissions from whatever level they may be at today.

The Texas Ozone Task Force believes that some truly objective scientific review of the ozone control strategy must be conducted during the next five years to evaluate what measures should be undertaken in these enduring nonattainment areas. While it is clear that there are some truly reasonably available control measures that can be taken in the short term, these are not likely to achieve the reductions mandated in Title I and it is not nationally beneficial to embark on the course required by this bill without some sense that it will be effective.

ATTAINMENT DATES

The bill currently includes four attainment dates:

1990 - For areas not part of an ozone transport region with an ozone concentration not in excess of 0.14 parts per million.

1992 - For areas with an ozone concentration not in excess of 0.18 parts per million or for other areas in excess of 0.18 parts per million which can demonstrate attainment.

1997 - For areas with an ozone concentration in excess of 0.18 parts per million but less than 0.27 parts per million.

2002 - For areas with an ozone concentration in excess of 0.27 parts per million.

An area with an ozone concentration less than 0.18 parts per million can obtain a 1997 attainment date, but only the specified area--which is presumed to be the Los Angeles environs--can obtain a 2002 attainment date. Once an attainment date is selected, failure to attain results in sanctions.

Houston is automatically included in the 1997 category. However, most observers and analysts familiar with the Houston ozone situation do not perceive that a 1997 attainment date is feasible. Consequently, once again Congress is moving forward on legislation which discounts the experience of the last 15 years in favor of a theory that legislative deadlines for ambient air standard attainment will produce atmospheric results.

Dallas-Ft. Worth falls in the 1992 category; however, because the Dallas-Ft. Worth emissions inventory is so enormously dominated by mobile sources, most experts would not believe 1992 is a realistic attainment date. Consequently, it will likely be required to seek a 1997 date under this legislation. There have been no extensive studies which suggest whether 1997 is realistic.

At issue here is credibility. The people of Houston, the people of Dallas have been led to believe by enactment of the Clean Air Act and the Clean Air Act Amendments of 1977 that if they took the steps contemplated in these laws, their air would meet the national ambient air quality standard. It hasn't happened. There local leaders have enacted the regulations and imposed the new programs, but they are now convinced that they cannot effectively predict or promise if the air in these areas will meet the national ambient air quality standard. If Congress continues to enact laws which most experts know cannot achieve the promised results, the pollution control process will lose credibility. Their is no public policy value to destruction of public faith in the Clean Air Act. Public support and cooperation are needed to implement whatever controls are developed. Houstonians, Texans, all citizens want clean air, but they want strategies which will work effectively toward achieving that goal.

This argument is not intended to suggest that some form of deadlines for action are not needed to pressure the process. In fact, prior to adoption of the Stafford amendment on additional attainment dates, the Subcommittee print already included a wide array of requirements with specific time deadlines and with sanctions for failure to act. Each of these specific requirements is also retained in the bill as adopted by the Subcommittee. While the specific elements of these requirements are not achievable in an area like Houston and would result in serious economic and adverse social consequences, the general model of using action steps as a gauge of progress has considerable merit. A similar concept was recommended by the National Commission on Air Quality for nonattainment areas.

THRESHOLD FOR OBTAINING ATTAINMENT DATE EXTENSION

Section 101 of the Subcommittee bill requires as a threshold for extension of the current attainment date a condition that failure to attain by the current date was "...despite good faith efforts to comply with this part and to implement all measures in approved or submitted implementation plans...." State implementation of all measures in approved or submitted implementation plans should constitute good faith efforts. No other test should be required.

SPECIFIC REQUIREMENTS

For an ozone nonattainment area to extend its compliance date to 1997, it must adopt the following specific requirements:

1. The operation of a vehicle inspection and maintenance program as defined in this bill.

2. The operation of Stage II vapor recovery.

3. The requirement of alternative fuels for centrally fueled vehicle fleets of 50 or more vehicles.

4. Application of RACT (as defined in this bill) to existing sources of hydrocarbon and nitrogen oxide emissions.

5. No emission reductions required under Section 110 or Part D of the Clean Air Act can be achieved through reductions at other sources.

6. All new or modified major stationary sources (as defined in this bill) must comply with LAER (as defined in this bill).

7. The adoption of RACT (as defined in this bill) for categories identified by a regional commission.

8. Area wide hydrocarbon and nitrogen oxides must be reduced from 1987 emissions levels by 33 percent by year end 1991, 50 percent by year end 1994, and 65 percent by year end 1997. A lower target may be used if justified, but it cannot be less than 5 percent per year--50 percent below 1987 levels by year end 1997.

9. Specific strategies and transportation control measures to offset any growth in vehicle miles traveled, to offset any increases in emissions associated with growth in vehicle miles traveled, and to attain reductions in mobile source emissions necessary to meet aggregate emissions reductions targets. These measures must include or substitute for the reductions that would be achieved by the following measures:

   A. Programs to limit or restrict vehicle use in downtown areas through road user charges, tolls, parking surcharges, vehicle restricted zones, vehicle restricted periods, registration conditions, or other devices.

   B. Limitation of certain roads or lanes to common carriers or to high occupancy vehicles.

   C. Programs for improved public transit.

   D. Requirements for major employer participation in programs to encourage use of public transit and multiple occupancy vehicles, and in programs providing alternative work hours.

   E. Conversion of fleet vehicles to cleaner engines or fuels, or to otherwise control fleet vehicle operations.

   F. Traffic flow improvements.

   G. Trip reduction ordinances.

   H. Programs for area wide ridesharing.

10. Each major stationary source (as defined in this bill) of hydrocarbons and nitrogen oxides must reduce its emissions rate so that it achieves a percentage reduction equivalent to the area wide

percentage reduction by the end of 1991, 1994, and 1997 . Credit is allowed for reductions made during and after 1982 based on RACT and LAER (as defined in this bill).

11. The adoption of an emission fee of at least $100/ton.
12. The adoption of an excess emissions fee that is collected whenever a major stationary source fails to meet its annual reduction target equal to the value that failure to meet the reduction benefits the source but it must be no less than $5000/ton.
13. A binding commitment to implement coordinated planning requirements.
14. A requirement that new or modified sources must obtain offsets at least twice the amount of the allowable emissions they are seeking to permit.

Failure of a State or local government to meet each and every one of these provisions would result in sanctions. Yet, virtually all of these provisions present significant difficulties, perhaps insurmountable difficulties, in their application.

Following is an assessment of each critical element.

Inspection/Maintenance

Concerns about the implementation of this requirement are largely described in the earlier discussion on DEFINITIONS IN TITLE I. The Texas Ozone Task Force recognizes and endorses the concept of improving current inspection/maintenance programs that are required under the Clean Air Act; however, this legislatively prescribed program would exceed the needs of the nonattainment areas and its costs would be well beyond acceptable levels to many segments of the population. These excessive costs and legislative limitations would delay development of more effective inspection/maintenance procedures based on new technology.

Stage II Vapor Recovery

In any consideration of Stage II Vapor Recovery it is first imperative to recognize that it is not a panacea that will produce attainment. It represents an intense demand on the enforcement capabilities of State and local government agencies which will not be offset by the funds provided by the Federal government.

Moreover, elsewhere in this bill, the Subcommittee has required the implementation of onboard vapor recovery canisters for vehicles. EPA has recently proposed rulemaking that would also require the onboard canister, thus making the legislation unnecessary. Emissions that would be recovered by Stage II Vapor Recovery will be collected by onboard canisters. At the same time, onboard canisters can also recover so-called hot soak and diurnal breathing losses and can be designed to address the issue of running losses that has been identified by the HRM studies. These emissions cannot be collected by Stage II Vapor Recovery and specifying this technology becomes redundant.

Alternative Fuels for Fleets

The concept of alternative fuels for vehicle fleets in nonattainment areas has drawn considerable attention and deserves to be examined. However, it is not a clear cut decision. There are significant questions about the environmental effect of alternative fuels. Some fuels, which are perceived to be more environmentally beneficial, may simply delay the effects of current fuels or may create other environmental problems. Even for centrally fueled vehicle fleets, refueling may be an issue in areas where such fleets now cover large areas. Issues of availability, cost, and feasibility need to be examined.

For example, methanol fuels which appear to be a popular alternative choice in the Los Angeles area require about twice the volume to produce the same energy as gasoline. Therefore, it will require twice the storage capacity. Construction of new storage in Los Angeles will require two for one offsets under this bill. There are major questions regarding whether the new storage could be constructed under the provisions of this bill.

While the concept of alternative fuel use has merit, the realities of its implementation make the absolute requirement of the provision undesirable.

Application of RACT

The concept of requiring RACT on existing sources is entirely appropriate. At issue is the meaning of RACT. Current RACT embraces critical cost effectiveness tests. RACT, as redefined in this bill, discards those cost effectiveness tests and replaces it with a definition that excludes many important factors in determining reasonable controls for existing sources such as energy and economic factors and other costs.

Prohibition of Bubbles

There is no apparent reason why a cost effective mix of controls that produce the same level of emissions reductions at a source by controlling some more intensely than others should be prohibited. The effect of such a prohibition is even more significant when viewed in the context of the requirements for individual stationary source reductions and the excess emissions fee provisions.

Application of LAER

The concept of requiring new or modified sources to be subject to a rigorous technology review as a part of the permitting process is entirely appropriate. At issue is the use of the LAER process as defined in this bill. As stated earlier, LAER is a fatally flawed concept. It would expend enormous time and resources in searches for technologies which would produce little in the way of results. A far better effort could be made in utilizing the successful BACT approach with more effective efforts to assure that BACT information is readily available to all state permitting authorities.

Area Wide Emissions Reductions Targets

This concept, when originally presented to the Subcommittee, was the primary mechanism to define progress toward attainment in areas faced with enduring nonattainment problems. This concept is meritorious. It moves the stewardship role of the Federal government from a review of the intangible concept of attainment of an ambient air quality standard at a distant time to a review of the tangible actions by a State regulatory authority. Failure to meet these tangible targets would subject an area to sanctions. Now, the Subcommittee has added specific sanctionable attainment dates to the process, but it retains the these sanctionable provisions as well. The issue is whether the rollback targets in the bill are achievable.

The targets apply to both hydrocarbon and nitrogen oxide emissions. The reduction targets are based on the total emissions in an area in 1987 and range from a minimum of 5 percent per year (20 percent by 1991, 35 percent by 1994, and 50 percent by 1997) to a maximum of 33 percent by 1991, 50 percent by 1994, and 65 percent by 1997.

In Houston, neither the minimum nor the maximum targets are achievable without potentially massive economic distortion and an overwhelming restructuring of the social fabric and life style of the area. In no sense can these targets be considered as a moderate or reasonable expectation to do what can be done. Houston has reduced its hydrocarbon emission base by more than 40 percent from 1980 to 1987, and by substantially more than that from the early 1970s. These were difficult, costly steps. There are few remaining steps to take short of limiting the area economy in draconian ways. Nitrogen oxide limitations are also in effect and technological options here are less flexible.

These targets are apparently based on the erroneous assumption that there are some hidden technological options that have not been explored. This assumption is also reflected in the specific requirements related to transportation control measures and stationary source control measures.

Perhaps more importantly, the adoption of the Stafford deadline amendment will override the application of the targets in this section and in both the transportation control measures and stationary source control measures as well. Presumably, if an area cannot show attainment by 1997 with a 65 percent reduction in emissions, it must do more.

Inevitably, State agencies are faced with one of several losing choices. The first is whether to "game" the attainment demonstration to find the least onerous set of requirements that can "show" attainment. If unsuccessful in attaining the standard or meeting any of the interim requirements, sanctions would be imposed. The second is whether to take the position that "gaming" is incorrect, but the requirements of this bill cannot be met.

At this point neither choice is palatable; neither option is particularly different than those confronting States under current law; but, the consequences of inevitable failure under this bill are worse than the consequences of failure under current law.

Transportation Control Measures

1. Context Within Mobile Source Reductions--Before describing specific concerns about transportation control measures, it is necessary to place them in the context of mobile source reductions under this bill. Hydrocarbon and nitrogen oxide emissions are divided into two broad components--stationary sources and mobile sources. This bill requires area wide percentage reductions and stationary source reductions in identical percentages; consequently, mobile sources would have to be reduced by the same percentage. Thus, mobile sources would have to be reduced by a minimum 5 percent per year.

   Mobile source reductions are comprised of three basic elements--reductions from federal mobile source standards because of vehicle fleet turnover, reductions from the inspection and maintenance program, and reductions from transportation control measures. At issue is whether this mix of options can reduce mobile source emissions over the time frame required in this bill at the levels required in this bill. As an example, it would be useful to determine whether mobile source emissions can be reduced by 20 to 33 percent by the end of 1991.

   Federal mobile source standards will produce additional reductions in mobile source emission during this period through vehicle fleet turnover and there will be important participation in these reductions from the current inspection and maintenance programs. Some information on the magnitude of these reductions may be obtained from looking at information developed with regard to the Dallas area. Current estimates would suggest that between 1987 and 1992 the combination of federal standards and I/M will reduce mobile source hydrocarbon emissions by a total of about 17 percent over 5 years or roughly 3.3 percent per year. By year end 1991, total reductions would be 13.4 percent. This amount would be roughly 6 to 20 percent short of the required reduction target. The question then becomes whether the enhanced I/M requirements and transportation control measures can provide this difference.

   It is unclear that the enhanced I/M program required in this bill will dramatically improve the effectiveness of I/M programs for hydrocarbons. It is unclear whether existing I/M programs can continue to be as effective as they have been for hydrocarbons. The key to effective I/M programs is engine emission deterioration. If new vehicle emissions deteriorate less than older vehicle emissions, existing programs will be less effective. Current I/M programs are designed to achieve at least a twenty five percent reduction in emissions. For I/M programs to add to mandated reduction targets, it would have to be more effective. Yet, several studies undertaken by the National Commission on Air Quality have suggested that this twenty five percent target is on the high end of expectations for I/M programs. Other studies suggest that new vehicles will not deteriorate as extensively as older vehicles and I/M programs will be less effective.

2. Effectiveness--Another issue is whether the transportation control measures required by this bill will be effective. The concepts of transportation control measures are not new. They have been evaluated before and in some instances can be effective. They, however, must be considered in the context of the areas in which they must operate.

   In cities, like Houston, where population density is relatively low, vehicle miles traveled are more extensive than in older more densely populated cities. In those cities, which grew most extensively when gasoline was inexpensive, mass transit has not been developed as well as in cities which developed in a different time. Low population density still constrains it use. Houston has spent millions of dollars developing its mass transit system, but the task still remains enormous.

   This bill mandates requirements that are oriented toward reducing vehicle miles traveled. The problem with this approach is that reducing vehicle miles traveled is not the only way to reduce transportation related emissions. A more appropriate approach would be to address emissions reductions.

   In this context the Houston area evaluated an extensive list of transportation related controls as a part of the current Implementation Plan development. These included: vanpool encouragement, enhanced park and ride facilities, and improved bus services (including High Occupancy Vehicle lane improvements). Several other options were evaluated but were largely considered infeasible or duplicated by these measures.

   The total reductions projected from 1980 to 1987 for these transportation control measures amounted to 2.4 percent of total mobile source emissions--or approximately 0.35 percent per year. These measures are in the process of being put in place. Transportation control measures in cities like Houston are not a major realistic option for reasonable controls. Even if these existing measures had not already been adopted, they would have a minimal impact on meeting the 20 to 33 percent target by 1991.

3. Federal Land Use Implications--If it is the intent of this provision to require massive life style alterations, the Texas Ozone Task Force opposes this type of Federal intrusion into local planning decisions and believes that such decisions must be made on the basis of all relevant factors not just ozone nonattainment considerations. Programs to "limit or restrict vehicle use in downtown areas" could work against public efforts to create the high density nodes that are essential to mass transit. If the term "trip reduction ordinances" is intended to include prohibitions on vehicle use or gas rationing, the people of Houston have indicated intense overwhelming opposition to such measures when they have been previously suggested.

The indignation over such measures will undermine support for reasonable measures to improve transit and traffic flow. Public policy on environmental issues will suffer and support for any legislation will dissolve.

Stationary Source Control Measures

This requirement appears to be predicated on the assumption that stationary sources of hydrocarbons and nitrogen oxides can have such precise control of their emissions that they have the capability to iteratively ratchet down emissions. This is not the case. Technology to reduce emissions has been diligently developed over the past two decades, but there are physical limitations affecting both existing and new sources. The effect of this requirement can be devastating to critical national industries including petroleum refineries, chemical plants, utilities, and gasoline distribution operations.

Changes in the definitions of RACT, LAER, and major stationary source will exacerbate the problems. Prohibitions of bubbles can also be significant. Credits for reductions made during or after 1982 may or may not be significant, but they will discriminate against those who acted expeditiously to reduce emissions.

Some examples of the implications of this requirement will explain the scope of these problems. Many of the emissions sources in the Houston area for hydrocarbons are storage tanks. The Texas Air Control Board (TACB) has regulated emissions from storage tanks since the mid-1970s. Most tanks have used floating roofs as a control measure. These were largely required by 1975 and generally reduce emissions from an uncontrolled level by about 95 percent. In 1979, the TACB required the installation of secondary seals on these tanks which increased control effectiveness to approximately 99 percent. Compliance was required by year end 1982. All tanks with a capacity greater than 42,000 gallons(1000 barrels) are regulated. Similarly, all new tanks constructed after May 1977 were required to have secondary seals under the new source review requirements of the Texas Air Control Board. Federal New Source Performance Standards effective in May 1978 required secondary seals for new tanks.

Under this section, combinations of existing tanks which qualify under the stationary source definition and which met the TACB regulation prior to 1982, or new tanks with secondary seals constructed prior to 1982 could be subject to a minimum emission reduction requirement of 5 percent per year, despite the fact that emissions have already been reduced by 99 percent. There is no additional retrofit technology for tanks; tank emissions are not throughput related. The minimum 5 percent per year requirement cannot be met for tanks with this technology in place before 1982.

For tank farms implementing secondary seal technology during or after 1982, the issue is whether credit is available. The answer hinges on two factors--(1) the new definitions of RACT and LAER and (2) the implications of the statutory deadlines for attainment.

For example, the new LAER definition requires that only the most rigorous ten percent of technologies meet the LAER definition. If there is some slightly more effective new tank technology--such as internal floating roof tanks with secondary seals--even if these technologies may be used in only limited cases, new tanks with external floating roofs and secondary seals could be viewed as failing the LAER test. Such a judgment would eliminate these tanks from the credit mechanism even though retrofitting cone roofs on existing floating roofs is infeasible and even though these tanks would be controlling emissions to a 99 percent reduction level.

Even if tanks after 1981 meet the RACT and LAER test, there is a fundamental question of equity regarding why a new tank constructed in late 1978 and a new tank constructed in 1982, each of which reduce uncontrolled emissions by 99 percent, should be treated so differently under this bill.

Tanks are not a unique case. A similar situation involves gasoline loading of tank cars and tank trucks. Some of these operations have been controlled since 1973. In general, these controls require the collection and recovery of gasoline vapors that are emitted as liquid fills the tank car or truck. Additional controls were required in 1979 with a final compliance date of year end 1982 which control emissions in excess of 90 percent. Under this bill, if the facility complied in 1981 and it emits 25 tons/year or is part of a facility that emits more than 25 tons/year, it must reduce its emissions by a minimum of 5 percent per year. There is no technology to meet this task.

Similarly, the bubble prohibition further limits the capabilities of sources to meet the requirements of this section. For example, in a tank farm emitting more than 25 tons/year, no tank could reduce its emissions. Several tanks could be shutdown to bring the entire tank farm to a lower emission rate, but the combination of the major stationary source definition and the bubble prohibition would forbid this limited alternative.

There is no magic line that assures that technologies on either new or existing sources prior to 1982 is substandard compared to that installed during and after 1982. The real issue is whether feasible technology exists to further reduce emissions; this is a RACT question not a matter which can be addressed with this across the board mandate.

In Houston, where active controls have been in place for many years before 1982 the potential inequities and onerous results of these provisions on sources which acted in good faith to expeditiously control emissions are appalling. Other areas could be equally adversely affected. There are some indications that the Los Angeles area may have required secondary seals on tanks in 1977. If so, none of these tanks would receive a credit.

Given that the options for control are in many instances limited or unavailable, the consequences of failure are equally unfair. Because this section--Section 172(e)(2)(C)--must be implemented by the State, failure to achieve the results would cause the imposition of sanctions. In addition, individual sources would be subject to excess emissions fees.

Excess Emissions Fees

This section provides that any major stationary source--greater than 25 tons/year of emissions--which fails to make its reduction target must pay a fee equal to the cost per ton of pollutant removed that would have been expended in order to comply or the economic value that a delay in compliance would have to the owner. The fee must be at least $5000/ton.

This concept appears to be predicated on the theory that there are readily available RACT options that are not being used because of cost. Current RACT has been in the $2000/ton level. It is a flawed theory however.

Consider again the tank farm example. Tanks with secondary seals have used the best available technology. Those in operation with secondary seals prior to 1982 must meet the reduction target or be fined. Since there is no additional technology, the fine would be based on the economic value of running the tanks. The economic value in running tanks in a refinery is that refineries cannot operate without crude oil storage tanks and finished product tanks and intermediate storage tanks. Presumably, this section would require as an excess emissions fee the entire profit of the refinery. Under this circumstance there is no purpose in continuing to operate the refinery. Shutting down domestic refineries only benefits foreign competitors. Only the United States loses.

Similarly, the excess emission fees will only be assessed in areas with 10 or 15 year extensions of the attainment date. This has the effect of encouraging industries to shift operations to other areas to avoid fees. This concept of creating "pollution havens" has always been discouraged by the Clean Air Act. Yet, when operating facilities have already implemented rigorous controls, like secondary seals on tanks, their choices are limited. If the United States is lucky, the operational shifts will be to other domestic "pollution havens". Unfortunately, form any of the industries affected by these requirements the choice will be between continuing an operation in the United States or using foreign capacity. Again, only the United States loses. Another flaw with the excess emissions fee theory is the inability to determine emissions with this level of accuracy. In particular, hydrocarbon emissions are calculated estimates. While the calculation process has been revised, enhanced, and improved over the years, it is still subject to uncertainty levels--on the order of 10 percent. When considering the idea of emissions fees, it is essential to provide some clear and acceptable method of determination.

New Source Offset Requirement

The bill requires new sources in areas with 199 7 or 2002 attainment dates to offset their emissions two for one. It is interesting to note that in Clean Air bills reported from the Environment and Public Works Committee in 1982 and in 1984, two for one offsets were the construction sanction. Under the provisions of this bill, it will still serve as an effective construction sanction--a de facto sanction even as a State tries to implement the other provisions of the bill.

The massive further reduction requirements of the bill will eliminate any remaining emission reductions other than closing existing operations to build new ones. In Houston because existing sources are so tightly controlled--in many cases there are only minute differences between new source requirements and existing source requirements. A new source could be constructed only by closing down existing capacity of roughly twice its own.

This is a clear formula for economic stagnation in an area which has been among the most vigorous in the world--an area which is now suffering its worse economic problems since the days of the Republic of Texas.

SANCTIONS

General

Apparently, under this bill the sanction philosophy for failure to meet largely unachievable goals is to stifle economic growth, to prevent the construction of new more environmentally sound facilities, and to undo the benefits achieved by the Clean Water Act. Public policy on the environment is the greatest loser under these sanctions.

Neither the construction ban nor the highway sanction change in basic concept from current law. The new sanction is a prohibition of new sewer hook ups to publicly owned treatment works. Two of these sanctions are designed to be automatically implemented--the construction ban and the sewer hook up prohibition.

These new sanctions are further indicators that even sanctions under the current law are better than the options under the Subcommittee bill. Because the bill has so many hurdles that most areas cannot meet, these sanctions appear more inevitable than those in current law. And because of the basic changes to the bill, these future sanctions will be worse than the current ones. The construction ban will apply to smaller sources; the highway sanction will be no different than current law; sewer hook up prohibitions are more onerous than limitations on construction grants under the Clean Water Act.

Incentives, if properly developed, might be a useful tool to encourage greater efforts to seek attainment; sanctions largely serve to impose such a great threat that Federal agencies usually seek to avoid imposing them. The bill would be well served if the Committee would consider incentive oriented ideas instead of continuing the failed theory of sanctions.

Sewer Hook Ups

The one new item in the list of sanctions is a ban on sewer hook ups. This could have severe consequences for the City of Houston in several ways, including the following:

1. Existing city bond issues could be jeopardized, threatening the city's bond rating and upsetting municipal bond financing generally.

2. The future possibility of bond financing for wastewater improvements would be jeopardized or eliminated.

3. Slum clearance and/or urban redevelopment projects would be jeopardized or eliminated.

4. Septic tank use might increase in suburban areas, to the detriment of public health.

5. Use of small treatment systems would be increased; past experience has shown that these systems tend to be less reliable after several years and the wastewater must be rerouted to larger--typically city run--wastewater systems. Prohibition of rerouting would be detrimental to public health.

6. Building and construction activities would be greatly curtailed, adversely affecting employment and provision of needed facilities and improvements.

Sewer and sewage treatment plant improvements have been financed in the past by a combination of federal grant funds and local bond financing. Prior to the mid-1970's, Houston used general obligation bonds. Then, the Wastewater Division was made an enterprise fund, after which Houston used revenue bonds. If projects financed by general obligation bonds were originally planned on the assumption that new sewer hook ups would provide revenue, then a ban on hook ups would make it necessary to use general tax revenue for debt service. If original financing was by revenue bonds, then a reduction in revenue would lead to default. Either result would have a major adverse effect on the city's bond rating and city finance generally.

Future financing would be adversely affected if no new hook ups could be used to increase revenue. Either no revenue bond financing would be possible, or interest rates would be exorbitant because of the increased risk.

Slum clearance and urban redevelopment projects cannot be planned and undertaken unless sewer facilities are available. If no hook ups are allowed, such projects would not be possible. If existing hook ups could be retained, it would be difficult to plan redevelopment projects that would have to utilize the same sewer connections as the slums that were torn down. Redevelopment areas probably could not succeed, because new construction would have to be based on higher population density because of land costs.

The demand for new housing would not vanish simply because of a ban on new sewer hook ups. In suburban areas, new construction would have to utilize septic tanks or small self contained treatment systems. Either can increase the risk to public health. Currently, one of the wastewater treatment problems confronting the Houston area is absorbing wastewater from inadequate small treatment systems at suburban developments.

It is truly hard to believe that the Congress wants to create a new sanction designed to risk public health, hurt the poor, and damage delicate city financing solely for the purpose of penalizing areas for failing to meet unachievable requirements.

MARINE LOADING EMISSIONS

This bill amends Section 110 of the Clean Air Act to authorize any State or local air pollution control agency to regulate emissions from vessels in port. The Houston area has been involved in deliberations over the wisdom, safety, effectiveness, feasibility, and cost of controlling marine vapor emissions since 1973. There are serious technological and safety issues that must be resolved before regulation of vessels should take place. Failure to appropriately resolve these issues can result in public endangerment from explosion and fire will above any risk or health impairment that may result from current emissions. No individual State or local agency is the appropriate control entity to address these emissions. If regulation is justified, it should be undertaken through the U.S. Coast Guard with participation from the EPA. The Coast Guard has the responsibility for port safety which is essential in dealing with this type of emission.

United Parcel Service 51 Weaver St. Greenwich Office Park 5
Greenwich CT 06836-2160
(203) 622-6000

July 24, 1987

Honorable George J. Mitchell
United States Senate
176 Russell Senate Office Building
Washington, DC 20510

Dear Senator Mitchell:

This letter offers our views regarding the Clean Air Standards Attainment Act of 1987.

United Parcel Service would like to express its concern to you over the fleet vehicle fuel conversion provision contained in Section 101 and other related sections of the Committee Print recently approved by your Subcommittee.

As we understand the fleet conversion provision, in order for areas to obtain either 5, 10, or 15 year extensions of attainment deadlines, centrally fueled fleets of 50 or more vehicles must convert to "alternative fuels or power sources with lower emission characteristics." (July 10, 1987 Committee Print, page 4, lines 6-12.) In addition, under an amendment offered by Senator Graham during the recent mark-up, areas with ozone concentrations of 0.14 ppm or lower can choose enhanced inspection/maintenance, stage II vapor recovery or fleet conversion as the primary means of demonstrating attainment. (July 10, 1987 Committee Print, page 5, lines 17-25 and page 6, lines 1-6). These requirements raise several basic issues which we believe have not been considered during any hearing or mark-up.

The first, and most basic, concern to UPS is related to the philosophy underlying the fleet conversion provisions. It appears that areas with less severe non-attainment problems, which are generally smaller areas than those with the more severe problems, must undertake fleet conversion first. This does not appear to be sound policy, since the more heavily impacted areas should be required to act before less polluted areas. In addition, due to the relatively low number of vehicles affected in these areas as opposed to larger, more heavily polluted areas, fleet conversion may be insufficient to demonstrate attainment. Thus, areas may be fooling themselves and the public with respect to attainment of air quality standards.

The second major concern involves the time provided to accomplish the conversion of fleet vehicles. Under Senator Graham's amendment, an unknown number of our fleets in widely scattered parts of the country would be required to convert within three years. This is because we believe jurisdictions will choose this requirement over enhanced I/M and stage II, both of which create a direct impact on individuals.

We see no possible way of conducting necessary testing, converting the fleet of vehicles in large numbers of areas, and making the operational modifications to our business; within three years. Nor do we believe any equipment supplier is in a position to provide the components that will be needed for conversion. The prospect of obtaining an alternative fuel supply of sufficient quantity to provide for reliable service in an unknown number of geographically dispersed smaller urban areas within 3 or 5 years is highly doubtful.

Without assurance of an adequate supply of fuel, actual conversion of vehicles would become an exercise in futility. Even with the emphasis placed on methanol in California over the past several years, it is uncertain that adequate supplies would be available to all fleet operators in that state within 3 to 5 years. In areas with little or no experience with alternative fuels, it is highly doubtful, at best, that supplies will be available in the time frame required in the Committee Print.

UPS has undertaken extensive research and demonstration programs on alternative engines and fuels. We have learned a great deal from these efforts. This knowledge makes us quite certain that the 3 and 5 year time periods are unrealistic for the magnitude of the task.

Third, UPS is uncertain whether methanol, ethanol, blends of either of these, of CNG would be acceptable under this provision. We do not believe it is possible to perform any comprehensive demonstration or measurement program prior to the 3 and 5 year time deadline for fleet conversion. It must be emphasized that for UPS, as well as any other fleet operator, once a fuel or power source is selected for conversion a huge investment of time and financial resources must be made. It would appear to be highly risky to rush headlong into a major conversion program without solid evidence that there will be corresponding air quality benefits.

In addition to the concerns over the fleet conversion provision, per se, UPS is also highly skeptical about the ability of vehicle manufacturers to supply new vehicles and engines that will meet the formaldehyde emission requirement in Senator Durenberger's amendment to Title III of this bill by the 1991 deadline. (July 10, 1987 Committee Print, page 61, lines 9-12). If manufacturers cannot supply appropriate vehicles or engines to UPS, the fleet conversion task becomes even more difficult, since we will be required to retrofit vehicles that are near the end of their life instead of replacing such vehicles with new ones.

Finally, UPS is concerned that there are no exemptions included in the vehicle restriction provisions for alternatives fuel vehicles that have been converted pursuant to this Act. After expending huge manpower and financial resources to convert a fleet, it is inappropriate to ban these vehicles from the very areas that are most critical to UPS and our customers.

The fleet conversion requirements approved in the Committee Print will create serious problems for UPS as well as other major fleet operators. These requirements should be modified to provide adequate time to accomplish the enormous task associated with conversion of commercial vehicle fleets. UPS believes 10 years is necessary to accomplish this task in large urban areas. In addition, this provision should apply first in more heavily polluted areas. Finally, an exemption from any vehicle use requirement should be provided for fleet vehicles subject to the conversion requirement.

UPS would appreciate the opportunity to discuss the issues raised in this letter in greater detail with you and other Committee members at your earliest convenience prior to any full Committee action.

Sincerely,

Robert E. Smith

Robert E. Smith
Senior Vice President

cc: Chairman Burdick
Senator Stafford
Senator Graham

NOTE

On August 10, 1987 a letter from Members of the Committee on Environment and Public Work was sent to the Administrator of the Environmental Protection Agency (see overleaf) asking for comments regarding the establishment of legislation to regulate municipal solid waste incinerators. A similar letter was also sent to various organizations. Responses to those letters, received by publication date, follow:

QUENTIN N. BURDICK, NORTH DAKOTA, CHAIRMAN

DANIEL PATRICK MOYNIHAN, NEW YORK
GEORGE J. MITCHELL, MAINE
MAX BAUCUS, MONTANA
FRANK R. LAUTENBERG, NEW JERSEY
JOHN B. BREAUX, LOUISIANA
BARBARA A. MIKULSKI, MARYLAND
HARRY REID, NEVADA
BOB GRAHAM, FLORIDA

ROBERT T. STAFFORD, VERMONT
JOHN H. CHAFEE, RHODE ISLAND
ALAN K. SIMPSON, WYOMING
STEVE SYMMS, IDAHO
DAVE DURENBERGER, MINNESOTA
JOHN W. WARNER, VIRGINIA
LARRY PRESSLER, SOUTH DAKOTA

PETER D. PROWITT, STAFF DIRECTOR
BAILEY GUARD, MINORITY STAFF DIRECTOR

United States Senate
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
WASHINGTON, DC 20510-6175

August 10, 1987

Honorable Lee M. Thomas
Administrator
Environmental Protection Agency
401 M St., S.W.
Washington, D.C. 20460

Dear Mr. Thomas:

We and other members of the Senate Environment and Public Works Committee are developing legislation establishing a Federal program to regulate and manage the emissions and ash from municipal solid waste incinerators. This legislation must assure protection of human health and the environment, while providing regulatory certainty for cities and concerned citizens alike. Enclosed is a draft of legislation on which committee staff is currently working. Prior to introduction of this legislation, we are asking for the benefit of your analysis of this proposal and the concerns it is meant to address. We welcome your comments and look forward to receiving them no later than August 31, 1987.

While there seems to be general agreement among all interested parties that Federal regulations are needed to provide predictability and uniformity , there are several issues which remain at the center of discussion over what those regulations should be. The following are a list of those issues:

- whether the emission standards for new incinerators, based on the emission reductions achieved in practice through application of the best available control technology, should apply to existing units at a later time or in a different form than for new units;

- whether emission standards and definitions of best available control technology need to vary according to the type and size of incinerator, eg. mass burn, Refuse Derived Fuel (RDF), and modular units;

- whether there should be provisions for health-based standards beyond emissions levels based on the best available technology to assure the protection of human health;

- whether setting the levels of emissions specified in the draft bill for incinerators provides both a feasible standard which can be met by incinerators using BACT and a scheme which is protective enough of human and environmental health;

- how often to require incinerators to meet updated emissions based on the availability of improved technology;

- whether more explicit Federal authority to regulate product composition and a more explicit program for source separation and recycling is necessary to remove substances and pollutants from the waste stream, as the best way to protect health and environment from dangers of emissions and leaching of ash and non-combustible in landfills;

- how to make the requirements for a solid waste management plan and the elements dealing with source controls enforceable against the appropriate parties;

- whether to include a requirement for adequate operator training.

Your comments on any other aspect of a Federal program to manage and control emissions and ash from municipal solid waste incinerators are welcome, but we hope you will particularly provide us with the benefit of your thinking on those issues outlined above. It is expected that at least the emissions part of this regulatory program will be considered on September 15 and 16th when the Environment and Public Works Committee meets in full committee to mark-up amendments to the Clean Air Act.

Thank you for your prompt attention to these concerns.

Sincerely,

Dave Durenberger
U.S. Senate

Quentin Burdick
Chairman

Robert T. Stafford
U.S. Senate

George Mitchell
George J. Mitchell
U.S. Senate

John Chafee
John H. Chafee
U.S. Senate

Max Baucus
Max Baucus
U.S. Senate

Daniel P. Moynihan
U. S. Senate

CITY OF TAMPA
Sandra W. Freedman, Mayor
INTERGOVERNMENTAL RELATIONS
Kathleen A. Betancourt, Director

August 27, 1987

Mr. Phil Cummings
U.S. Senate Committee on
 Environment and Public Works
Washington, DC 20510-6175

Dear ~~Mr.~~ Phil Cummings:

This is in response to your August 10th letter (signed by Senators Burdick, Baucus, Chafee, Durenberger, Mitchell, Moynihan and Stafford) which included proposed draft legislation on "Standards for Emissions from the Municipal Waste Incinerator Facilities."

The Tampa Bay Area is most unique in that we have three operating resource recovery plants. The jurisdictions which own these facilities, Hillsborough and Pinellas Counties and our City of Tampa are most interested in any legislation that will bear an impact on the operation of these plants.

That is why on Monday, August 24th, a working group convened to discuss the draft which you were thoughtful enough to share with us. (See attachment with list of participants.) This letter is a product of that spirited meeting. Our rule of thumb was that we would not submit any position to you unless there was consensus within the group on that issue.

We were and are most concerned that this language speaks to standards for air emissions and ash in isolation. When substances like heavy metals are in the wastestream, they end up in the air, landfills or ash. The risks involved in the landfilling of wastes, the main alternative option in our area and others, are not addressed. We are also concerned that this language and the many critical issues which it raises will not have had a full public airing in subcommittee should the draft be considered by the full committee on September 15-16.

City Hall Plaza 7AE • Tampa, Florida 33602 • 813/223-8162 • Suncom 752-8162

However, we do appreciate this opportunity to comment.

Specific Suggestions:

STANDARDS FOR EMISSIONS

*At the top of page two strike the use of the word "potential," so that the draft would now speak to "any risk to human health or the environment." We suggest that federal studies be done to document and rank risks, if there are any. There appears to be limited data in this area. You may wish to know that HDR Tech recently completed a health risk assessment for the Pinellas County Resource Recovery facility. This is a very important study because it is based on real, not assumed, emission rates, unlike most studies to date. Their report concluded that "the health risks to the public are insignificant" (HDR has offered to meet with you and discuss their findings.).

*Also on page 2, Section (2)A, reference is made to standards for acid gases and for halogenated organic compounds. We would respectfully suggest more specificity as to which ones are to be considered for scrutiny and why? The thrust of our concern is that the presence of a substance in ash is not the problem. Leachibility is the problem. The issue, in dealing with both ash and air emissions, is whether or not a substance causes a documented health or environmental risk and to what degree.

*On page 3, in (B) some very detailed standards are reflected. We find it curious that statutory language, as opposed to that for rules, be quite this specific. Futhermore, none of our Bay Area facilities as financed, constructed and permitted could meet this standard. Compliance with standards as reflected on our permits should suffice unless there exists thorough documentation of risk, human and/or environmental, for named pollutant(s). In addition, the proportinate contribution of the incinerator to the total problem in a community should be evaluated, as should the risks in alternative means of disposal and the financial burden to be met by the community.

*We are very concerned about the language provided on page 5(d) directed at existing municipal waste incineration units. We should be required to meet our permit standards only for the life of the bonds which were issued to construct the facility. Of course, the standards should be revisited if the emissions and/or ash composition are proven harmful.

*At the top of page 6 it is suggested that on site data files be made available to the public during business hours. This is inappropriate. Unscheduled public access and traffic both interferes with the proper operation of these expensive and very technical facilities and creates serious security problems.

*Page 6,(3)(A) speaks to continuous monitoring for certain substances. An operator may elect to monitor in this manner for the purpose of determining whether or not he is getting good combustion. But the continuous and comprehensive monitoring as reflected in the draft makes little sense from the regulatory side. A plant can be thrown out of compliance on a small and insignificant variation. We would suggest continuous monitoring for opacity, stack and furnance temperature, CO or O2.

*Page 7, (4) suggests that we get involved in taking human blood or tissue samples. This is a nightmare to administer. It also neglects the countless other factors which play a role in the makeup of individuals' blood or tissue. Without any background monitoring statistics, the data gathered would be inconclusive. Delete this provision.

*At the top of page 8, Item (f), the draft calls for the termination of existing permits after 5 years. We respectfully suggest that rather than declaring that permits "shall terminate," the draft would more properly say permits "shall be reviewed on a date 5 years after the date..."

*At the bottom of page 10 and continuing onto page 11 we find the definition of "modified" municipal waste incinerator unit. This language needs to be clarified so that we speak to "capital" costs only and that costs be for "replacement" at the point in time when the modification is to be made, rather than the "original" cost of construction.

*At the bottom of page 11 we have some concerns about language which would require that we include in our solid waste management plan limitations on the composition of locally produced products. Rather than attempt to have a crazyquilt of programs, many of which simply are not practicable, it would be most helpful if Congress would tackle the challenge. If materials are toxic and should not find their way into the wastestream, such regulation can and should best occur at the federal level. We seek your support on this. We also would be glad to work with you in moving toward a national policy on recycling.

MUNICIPAL INCINERATOR ASH

Our main concern with this entire section is that definitive testing procedures and criteria should first be developed to categorize the ash. Permitting and disposal requirements could then be stipulated depending on test results. The order of the section would more properly be follows: testing, permitting, regulation and disposal.

Delete Section 4011.(a)(3), as proposed. Generally, fly and bottom ash are combined during the plant process. We must deal with that product.

*Section 4011(b)(1)(A). As reflected, it could double the cost for landfill construction operations and modifications.

*On page 3 in the middle of (d)(1) strike the word "may" so that the language would read "...the Administrator shall promulgate criteria and testing procedures for identifying the characteristics of ash from municipal waste incineration units that pose a hazard to human health or the environment."

*On page 4,(e)(1) by including the term "reuse", there is established a totally new regulatory and permitting scheme for recycling and reuse. This is likely to discourage rather than encourage recycling and reuse.

Again, we appreciate this opportunity to comment on the proposal. We have provided the proper names and addresses of all meeting participants and encourage you to call should you have any questions. Furthermore, we invite the committee and/or staff to the Tampa Bay Area. We are all proud of our facilities and would be more than pleased to schedule for you a tour of any or all three plants. You are more than welcome.

Thank you.

Sincerely yours,

Kathy Betancourt

Kathleen A. Betancourt

KAB:dhs

cc: Ms. Sue Stendebach,
Office of the Honorable Bob Graham
Tampa Bay Study Group

SENATE AIR EMISSIONS AND ASH LANGUAGE
TAMPA BAY AREA STUDY GROUP

James C. Andrews, PE
Assistant Vice President
HDR Techserv
A Centerra Company
(Pinellas County)
Suite 225
5100 W. Kennedy Blvd.
Tampa, FL 33609-1806
(813) 875-5560

Everett Bass
Director
Sanitation Department
City of Tampa
4010 Spruce Street
Tampa, FL
(813) 877-6031

Kathleen A. Betancourt
Director
Intergorvenmental Relations
City of Tampa
8th Floor, North Wing
1 City Hall Plaza
Tampa, FL 33602
(813) 223-8162

Patricia V. Berry
Projects Engineer
Hillsborough County
Department of Solid Waste
P. O. Box 1110
Tampa, FL 33601
(813) 272-6674

Greig Grotecloss
Planning Analyst
Environmental Coordination
City of Tampa
5th Floor, North Wing
1 City Hall Plaza
Tampa, FL 33602
(813) 223-8071

Theresa Lentz
Legislative Liaison
Pinellas County
315 Court Street
Clearwater, FL 34616
(813) 462-3485

Nancy McCann
Urban Environmental Coordinator
Environmental Coordination
City of Tampa
5th Floor, North Wing
1 City Hall Plaza
Tampa, FL 33602
(813) 223-8071

Richard J. McCormack, PE
Vice President
HDR Techserv
A Centerra Company
(Pinellas County)
Suite 225
5100 W. Kennedy Blvd.
Tampa, FL 33609-1806
(813) 875-5560

Marc J. Rogoff, Ph.D
HDR Techserv
A Centerra Company
(Pinellas County)
Suite 225
5100 W. Kennedy Blvd.
Tampa, FL 33609-1806
(813) 875-5560

Mike Salmon, Administrator
Water Resources & Public
Works
City of Tampa
8th Floor, North Wing
1 City Hall Plaza
Tampa, FL 33602
(813) 223-8771

Daryl Smith
Director
Hillsborough County
Department of Solid Waste
P. O. Box 1110
Tampa, FL 33601
(813) 272-6674

Thomas G. Smith
General Manager III
Hillsborough County
Department of Solid Waste
P. O. Box 1110
Tampa, FL 33601
(813) 272-6674

Bob Van Deman
Director
Solid Waste Management
Pinellas County
2800 - 110th Avenue, North
St. Petersburg, FL
(813) 825-1565

Agassiz Basin Group · Sierra Club

1112 Cottonwood Grand Forks North Dakota 58201

8-1-87
Ms Susan Buffone
National Clean Air Coalition
801 Pennsylvania Ave, SE
Washington DC 20003

Dear Susan,

Thanks for sending me your draft language on controlling municipal incinerators. I have only a few comments :

siting language-I believe that the siting language needs to be stricter. "To the maximum extent practicable..." (top of p2) sounds to me like a loophole that a bulldozer could drive through. It should be made clear that siting requirements MAY PRECLUDE construction of an incinerator in some circumstances—that there are some places where such activities just cannot take place. Of course the details of where those places are will vary depending on the rules promulgated.

performance standards - On p2, section (2)(a), you have covered most of the important points. Further on, you cover others (such as sampling intervals and technologies), but one thing that needs to be spelled out is that performance standards need to be established on a daily basis (how much NOX can be emitted daily) as well as on a longer term basis (how much per year). It should be clear from past experience with polluting industries that they frequently exceed standards for a handful of days a year, but then argue that over the year things average out to be OK. Similarily, we have some industries that emit large quantities of pollutants daily that don't quite surpass standards, but that add up to way too much on a yearly basis. Some sort of "short-term, long-term" language would be nice here.

penalties - Did I miss the language that pertains to penalties and enforcement ? Or was that left out on purpose ? Is this wise ?

page 3, section (2) (B) : Some numbers are here pertaining to minimum acceptable performance standards for carbon monoxide, sulfur dioxide, etc. I believe that some numbers for dioxin and dibenzofuran would be in order as well. Industry is now arguing that these compounds have not been proven to be dangerous to humans--lets put them in the list here so that we don't have to worry about that argument.

page 5, section (d) : the language that sets the six year limit for compliance in the middle of the page is a bit confusing and ambiguous. Also, I don't agree with the final phrase in the paragraph — "...to the maximum extent possible." This is not what we need. If there are new standards, we need compliance with the revised standards, but in fairness we should spell out a timeschedule for such compliance.

page 7, third from last line. If you are going to mention dioxin here, then mention dibenzofuran as well.

A final note, and a dream of mine perhaps. I would like to see some language somewhere that says that the appropriate agencies or individuals may not issue a permit unless they are willing to sign some sort of document that says that they believe the proposed project has sufficient technical safeguards such that it will comply with standards that have been promulgated. In other words, the agencies must up front say that they believe the project is sound before they issue permits for it. Too often we get permits issued for bad projects, and then they are allowed to go ahead because of momentum and the investment already made. If such requirements existed, it would be one more step in the premitting process that would be open for public review, and it would make the agencies more accountable.

Sincerely,

Dex Perkins

BROWNING-FERRIS INDUSTRIES

Richard F. Goodstein
Washington Counsel
Director of Federal Relations
202/223-8153

August 20, 1987

The Honorable Quentin N. Burdick
Chairman, Senate Committee on
Environment and Public Works
458 Senate Dirksen Office Building
Washington, D.C. 20510-6175

Dear Senator Burdick:

I understand that you have been soliciting comments recently on draft legislation on the subject of managing the ash generated by municipal solid waste combustion units. On behalf of Browning-Ferris Industries, one of the nation's leading companies in the solid waste services industry, and American REF-FUEL, a joint marketing undertaking in the waste-to-energy industry between BFI and Air Products and Chemicals, Inc., I have reviewed the draft legislation regarding municipal incinerator ash.

The following comments represent the views of both a major player in the waste-to-energy industry (American REF-FUEL) and one of the nation's leading private owners and operators of municipal waste landfills (BFI). This latter status distinguishes the following comments from most of those you are likely to receive from waste-to-energy vendors alone, who have little appreciation for satisfying the landfill component of your proposed legislation.

We commend you for proposing this legislation. As you yourself have said, protection of human health and the environment in addition to regulatory certainty for cities and concerned citizens alike is a must. Full-scale development of the waste-to-energy industry will become possible only when major questions, such as the regulatory status of ash, are resolved.

We also commend you for assuring that the ash issue will be resolved within the context of Subtitle D. It is clear beyond argument that the lack of Subtitle C capacity, let alone the associated increased price and stigma if ash were considered a Subtitle C waste, requires that any solution to this issue be solely within the context of Subtitle D.

We believe that federal authority to regulate product composition, far more than a program for source separation and

1150 CONNECTICUT AVENUE, N.W. • SUITE 500 • WASHINGTON, D.C. 20036

recycling, is the only long-term way to protect public health and the environment in connection with land disposal of any waste, municipal combustion ash or otherwise. While BFI stands strongly behind state and local recycling and source separation programs, it is our belief, based on years of experience in the waste services industry, that the maximum amount of recycling that a community is likely to achieve will be no more than 20 to 25%. The experience in Oregon, where recycling has been underway for over ten years but has yet to take in as much as 25% of the solid waste stream, reinforces our views. Regulating product composition, on the other hand, will keep troublesome materials out of the waste stream altogether. Fairly recent experiences with lead in paints, PCB's, and asbestos, all of which were considered essential to certain products decades ago, give us reason to think that regulating product composition is entirely feasible.

To expect local communities to achieve rates of source separation that keep troublesome materials out of the waste stream to any significant degree is unrealistic. Moreover, it is totally outside the ability of the waste-to-energy vendor to curtail or eliminate the amount of troublesome waste materials brought into a municipal waste combustion unit. Let us use one of our own facilities as an illustration. In Lehigh Valley, Pennsylvania, we are contracting to construct a waste-to-energy plant that services 62 separate communities as well as receiving waste from private haulers from outside those communities. Each of the 62 communities would have to enact and fully enforce source separation ordinances. Even if fully enforced, there would undoubtedly still be materials that residents or businesses purposely or inadvertently put into the waste stream that would cause the ash to show certain troublesome characteristics.

Even if local governments somehow forced source separation on their citizens, the vendor would have to be concerned with the waste being brought in by private waste haulers. A typical truck might have up to ten tons of waste that it dumps into a pit at the waste-to-energy facility. Waste-to-energy vendors simply cannot engage in the degree of source separation at the facility that would make a significant difference on the characteristics of the ash residue. A few car batteries lost among the ten-ton load could conceivably have a significant bearing on the characteristics of the ash produced by burning that ten tons of waste. Household batteries have the same potential. Regulating product composition seems to us to be the only sensible solution to this problem.

Regarding the draft proposal, we believe that an appropriate result for the ash disposal issue is as follows: Combined bottom and fly ash can be disposed in a single-lined ash monofill, with leachate collection and groundwater monitoring. Our landfill experts, and operating experience, support the conclusion that such a result fully protects human health and the environment. One caution, however: with the current inability of state and local governments to permit new Subtitle D landfill capacity speedily, state-of-the-art ash monofills will not come on line overnight. There will have to be some phase-in period while monofills with the appropriate design features are constructed. Nevertheless, we applaud your proposal to the extent that it incorporates an ash monofill concept.

The proposal that, in the absence of monofills, landfills receiving ash should have a double liner and double leachate collection system may both be unnecessary and implausible. It may be unnecessary because we are not convinced that double liners function any better than a well-designed and constructed single recompacted clay liner and leachate collection system. Moreover, as was discussed in the context of ash monofills, landfills are hard enough to site and permit today. It will become that much harder, and take that much longer, to site and permit a landfill with a double liner and double leachate collection system. To expect that they will be available anytime soon is to misunderstand what is happening regarding landfills around the country today.

Our suggested result, as an alternative to the ash monofill, would be as follows: Test the ash. If it passes an appropriate test (not the EP Tox test but a new one yet to be designed), then it could be co-disposed in a Subtitle D landfill. An operator may want to test his bottom and fly ash separately. In that event, the bottom ash is quite likely to pass an appropriate test, in which case it could be co-disposed in a Subtitle D landfill. If the fly ash did not pass, it could be subjected to a stabilization, solidification, or vitrification process, and disposed of accordingly. Our concern is that such treatment methods are not yet commercially available, notwithstanding claims of certain treatment companies that treat certain kinds of metal-bearing wastes. To our knowledge they do not have the capacity and are not geared to stabilizing fly ash from municipal waste combustors.

These are our principal points with respect to the proposed ash legislation. Representatives of BFI and American REF-FUEL would be glad to speak with you or your staff to answer questions that our experience puts us in a position to answer. In any event, we look forward to working with you in development of sound legislation in this area.

Sincerely,

Richard Goodstein

Richard F. Goodstein

cc: Peter D. Prowitt
    Philip T. Cummings

August 28, 1987

Laurie Fulton
United States Senate
Committee on Environment and Public Works
Washington D.C. 20510-6175

RE: DRAFT LEGISLATION TO REGULATE AIR EMISSIONS AND ASH RESIDUE FROM MUNICIPAL SOLID WASTE INCINERATORS

Dear Ms. Fulton:

Pursuant to your request of August 13, 1987, CSI Resource Systems, Inc. is pleased to submit these comments on the draft legislation to regulate air emissions and ash residue from municipal solid waste incinerators issued on August 10, 1987. We are also providing comments on the specific issues raised in the letter regarding this legislation sent by Senator Burdick and other Committee members to Lee Thomas, Administrator of the Environmental Protection Agency (see attachment). The comments on the proposed amendments to the Clean Air Act and Solid Waste Disposal Act are presented in the following sections.

CLEAN AIR ACT AMENDMENTS

The draft legislation would amend the Clean Air Act by adding a Section 131, "Standards for Emissions from Municipal Solid Waste Incineration Facilities." Comments on the proposed amendments are provided below.

Standards for New Sources [§131(a)(1)]

This section requires the EPA Administrator to issue performance standards for new or modified "municipal waste incineration units" within one year of enactment of this amendment. Furthermore, the section mandates that the standards reflect application of "best available control technology" and then identifies specific control technologies considered "available" for such purposes. As defined in this section, best available control technology must be capable of meeting an emission level which either (1) has been achieved in practice by resource recovery facilities, or (2) is contained in the SIP of any State for such facilities, whichever is more stringent. This definition essentially requires compliance with the Lowest Achievable Emission Rate (LAER) for all pollutants, regardless of the attainment status of the proposed site or the potential health effects of the affected pollutants. In addition, the definition precludes consideration of the economic consequences of control technologies in issuing standards, as is currently allowed in the determination of "best demontrated technology" under the New Source Performance Standards.

This section also designates those technologies deemed "available" for such sources, including both air pollution control devices (i.e., ESPs, baghouses, and scrubbers) and solid waste management techniques (i.e., source separation, source reduction, and recycling). The former technologies are considered state-of-the-art air pollution control devices for resource recovery facilities. These technologies are regularly considered by state agencies in making their BACT/LAER determination under New Source Review for new or modified resource recovery facilities. The latter techniques, on the other hand, are not air pollution control technologies applied to the facility, but rather solid waste management practices implemented by the developer of such facilities. These techniques then should be specified in a solid waste management plan required of the developer, rather than a performance standard applicable to the operator of the facility. Note that the solid waste management plan delineates the requirements of the jurisdiction served by the facility.

The bill then promotes innovative air pollution control devices, such as flue gas denitrification, selective catalytic reduction, and catalytic oxidation. These developmental technologies have yet to be installed on resource recovery facilities or have only been applied on a pilot basis to such facilities. Requiring such technologies regardless of their development status imposes undue technical and financial risk on the developers of resource recovery facilities. Furthermore, a number of these technologies are not necessarily warranted weighing the potential air quality benefits with the dramatic economic penalties associated with such devices. For example, the referenced control technologies for nitrogen oxides have only been specified for resource recovery facilities in southern California, the last remaining nonattainment for nitrogen dioxide in the country, and thus are not justified for other regions of the country as this pollutant poses no imminent threat to public health.

This section then should require the Administrator to promulgate performance standards within a specified timeframe. The standards, however, should be based on application of state-of-the-art air pollution control technology weighing the environmental benefits and economic consequences of such control. The EPA should be given discretion to consider relative pollutant burden, ambient air quality, potential health effects, and other environmental factors in developing performance standards. The EPA's determination of state-of-the-art technology should then be based on an evaluation of technical feasibility, demonstrated performance, system reliability, and economic penalties.

Affected Pollutants [§131(a)(2)]

Section 131(a)(2)(A) identifies those pollutants that must be considered in establishing performance standards. At a minimum, emission limitations must be specified for the following pollutants: particulates (total and fine), sulfur dioxide, nitrogen oxides, carbon monoxide, acid gases, heavy metals (including lead and cadmium), and halogenated organic compounds (including dioxins and furans). The EPA is also required to consider the following pollutants in establishing standards: VOC, dioxins, furans, lead, cadmium, mercury, beryllium, hydrogen fluoride, hydrogen chloride, antimony, arsenic, barium, chromium, cobalt, copper, nickel, selenium, zinc, PCBs, chlorobenzenes, chlorophenols, and PAHs. This extensive list was derived from pollutants specified in air permit applications submitted to or approved by state agencies nationwide, regardless of their potential impact on public health or welfare. Consequently, many of the listed pollutants have not been demonstrated to have any significant acute or chronic toxicological effects on public health at the levels expected near resource recovery facilities. This is evidenced by the health risk assessment for resource recovery emissions performed by the EPA, which demonstrated that the emission of most organic compounds and trace metals resulted in no significant health effects to the exposed population.

Section 131(a)(2)(B) establishes minimum emission standards for resource recovery facilities. These minimum standards are arbitrarily based on the lowest emission rates for operating facilities, ignoring the effects of waste composition, operating variables, test procedures, or control specifications. The minimum standards cited in the bill are:

Pollutant	Minimum Standard
Particulates	0.010 gr/dscf @ 7% O_2
Sulfur dioxide	40 ppmdv
Hydrogen chloride	30 ppmdv
Carbon monoxide	50 ppmdv on 8-hour avg.
Combustion temperature	1800°F for one second at "fully mixed height"

These minimum standards not only exceed the performance standards issued by most state agencies, but also the environmental guarantees normally provided by both resource recovery and air pollution control vendors. Exhibit I summarizes the performance criteria specified for recent resource recovery facilities across the country. This summary demonstrates that the emission standards developed by the various state agencies are generally consistent, as such standards reflect the application of state-of-the-art air pollution control technology. Similarly, the performance criteria reflect the variability of waste composition, operating conditions, and testing procedures. These emission standards have evolved over the last several years and are based on extensive technical analysis and regualtory review. The legislature should take advantage of the states' extensive efforts in establishing minimum standards.

This section then should only require the Administrator to promulgate emission standards necessary for maintenance of ambient air quality standards or protection of public health and welfare. Although not explicitly prohibited, the EPA should retain the authority to designate those pollutants that warrant regulation under performance standards based on sound scientific evidence. In addition, this section need ~~not~~ specify minimum standards in the event of the EPA's failure to promulgate standards in the prescribed timeframe. Until the EPA issues such standards, facilities must comply with both the EPA's presumptive BACT/LAER requirements and various state agencies' emission guidelines.

Schedule for Performance Standards [131(a)(3) and (4)]

Section 131(a)(3) specifies the schedule for promulgation and revision of performance standards for resource recovery facilities. The Administrator is required to promulgate standards within 12 months, with the effective date no later than 18 months following enactment of this section. The Administrator is then required to review the standards three years following the initial promulgation and at five-year intervals thereafter. The standards must be revised before the end of each interval and become effective within six months of the date of such revision. Section 131(a)(4) prohibits operation of a new or modified municipal waste incineration unit in violation of any standard after the effective date of standard promulgated under this section. The EPA's recent track record in issuing standards prompted inclusion of this mandated schedule for promulgation and revision of performance standards in the draft legislation. The mandated schedule, however, appears unrealistic in light of the EPA's recent announced intention to propose New Source Performance Standards in December 1989. The EPA's schedule provided for compilation of the necessary background information and evaluation of alternative control strategies in the development of such standards.

EXHIBIT I

EMISSION STANDARDS IN STATE PERMITS/APPLICATIONS
FOR RECENT RESOURCE RECOVERY FACILITIES

STATE: FACILITY:	MASSACHUSETTS BOSTON	NEW JERSEY BERGEN COUNTY	CONNECTICUT NAUGATUCK VALLEY	PENNSYLVANIA LEHIGH VALLEY	NEW HAMPSHIRE CONCORD	NEW YORK HEMPSTEAD
Particulates	0.015 gr/dscf @ 7% O_2	0.015 gr/dscf @ 7% O_2	0.015 gr/dscf @ 12% CO_2	0.015 gr/dscf @ 7% O_2	0.02 gr/dscf @ 12% CO_2	0.015 gr/dscf @ 12% CO_2
Sulfur Dioxide	70% removal or 100 ppmdv @ 7% O_2	80% removal or 50 ppmdv @ 7% O_2 and 100 ppmdv max.	0.32 lb/MMBtu	70% removal or 50 ppmdv @ 7% O_2	0.61 lb/MMBtu	69 ppmdv @ 12% CO_2
Nitrogen Oxides	300 ppmdv @ 7% O_2	280 ppmdv (24-hr. ave.) @ 7% O_2	0.60 lb/MMBtu	0.47 lb/MMBtu	0.61 lb/MMBtu	300 ppmdv @ 12% CO_2
Carbon Monoxide	400 ppmdv (1-hr. ave.) 100 ppmdv (24-hr. ave.) @ 7% O_2	400 ppmdv (1-hr. ave.) 100 ppmdv (4-day ave.) @ 7% O_2	CO/CO_2 ratio 0.002 in stack (equivalent to 240 ppmdv @ 12% CO_2)	400 ppmdv (8-hr. ave.) 100 ppmdv (4-day ave.) @ 7% O_2	0.28 lb/MMBtu	400 ppmdv (1-hr. ave.) 100 ppmdv (8-hr. ave.) @ 12% CO_2
Hydrogen Chloride	90% removal or 50 ppmdv @ 7% O_2	90% removal or 50 ppmdv @ 7% O_2	90% removal or 50 ppmv @ 12% CO_2	90% removal or 30 ppmdv @ 7% O_2	90% removal or 50 ppmdv @ 12% CO_2	90% removal or 50 ppmdv @ 12% CO_2

Solid Waste Management Plans [§131(b)]

This section prohibits issuance of a permit under Subtitles C or D of the Clean Air Act unless the jurisdiction served by the resource recovery facility has prepared an "enforceable solid waste management plan" in accordance with Section 4006 of the Solid Waste Disposal Act [§131 (b)]. The plan must include an analysis of "solid waste handling alternatives" which, to the maximum extent possible, (1) minimizes the threat to human health and environment, (2) maximizes material conservation and health protection through waste reduction, source separation, and recycling, and (3) is cost effective. A permit may not be issued to a resource recovery facility unless the solid waste management plan reflects or is revised to reflect, after notice and opportunity for public comment, the operation of such a facility. Connecticut has adopted solid waste management plans reflecting proposed resource recovery facilities in accordance with the Solid Waste Disposal Act.

This section modifies the requirements for the solid waste management plan by incorporating provisions which, to the extent practicable, require: (1) the elimination of specific waste constituents prior to disposal or incineration through either limitations or the composition of locally produced products or prohibitions of disposal of certain items in the wastestream; (2) the separation of wastes at their source prior to diposal or incineration to allow separation of such wastes; and (3) the return to and acceptance by retail merchants of waste items more effectively disposed of in that manner. The EPA is required to publish guidelines within one year on the materials that can be removed from the wastestream through source separation or product restrictions. Although the intentions are admirable, it is questionable whether these requirements are enforceable under a solid waste management plan. Such requirements more likely must be implemented through legislation subject to judicial review.

These requirements are more appropriately addressed under amendments to RCRA. The owner/operator of a resource recovery facility has little to no control over the preparation of a solid waste management plan. Prohibitions, therefore, should be applied to the developer, rather than owner/operator, of the facility.

Failure to Promulgate Standards [§131(c)]

This section is a "hammer" provision intended to force the EPA to comply with the schedule for promulgation of standards. If the EPA fails to promulgate standards within the prescribed timeframe, no permits may be issued for a new or modified resource recovery facility by any State pursuant to Subtitle C or D of the Clean Air Act, unless the facility complies with minimum standards specified in Section 131(a)(2)(B). If the EPA fails to meet the specified schedule, this requirement would essentially prohibit States from issuing any additional permits for new or modified resource recovery facilities. Depending on the implementation schedule for ongoing projects, this requirement could prevent issuance of the required air permits by state agencies. Imposition of these minimum standards also prempts the states' authority to develop their own standards as required under the SIP.

Standards for Existing Sources [§131(d)]

This section establishes the requirements for existing resource recovery facilities and the schedule for implementation of these requirements. Within 12 months of enactment of this section, the Administrator must promulgate regulations requiring existing facilities to comply with the standards developed for new sources. The regulations must contain the timetable for existing facilities to comply with these standards; such timetable must require compliance within six years after enactment of this section. With respect to revisions to the standards, the Administrator need only require then existing facilities to comply with such revised standards "to the maximum extent practicable." Note that the standards may well be revised prior to the "6-year" effective date of the original standards.

These requirements for existing facilities could have a dramatic impact on planned or operated facilities, depending on the control technologies and performance levels required under the standards. Imposition of performance standards applicable to new sources on existing facilities, regardless of technical constraints and economic consequences, would threaten the viability of many projects. Since many of the pollutants involved pose no imminent threat to public health, it is unreasonable to expose existing facilities to such risk and jeopardize the solid waste management plans of participating communities.

Monitoring and Testing Requirements [§131(e)]

Section 131(e)(1) directs the Administrator to promulgate regulations requiring installation of continuous monitors or conduct of performance tests deemed necessary to protect public health. The regulations must specify the frequency of testing, monitoring and test methods, and requirements for reporting. Section 131(e)(2) requires that these regulations be promulgated within 12 months of enactment of this section and that they become effective immediately for new or modified sources and 18 months after enactment for existing facilities.

Section 131(e)(3)(A) specifies minimum monitoring and testing requirements for resource recovery facilities. At a minimum, the required continuous monitors must include: opacity, sulfur dioxide, nitrogen oxides, carbon monoxide, carbon dioxide, oxygen, hydrogen chloride, furnace temperature, and stack temperature. These requirements fail to recognize the availability or necessity of certain continuous emission monitors. For example, HCl monitors should not be required until they have been demonstrated to be commercially available, reliable, and accurate. Also monitors for two diluent constituents, that is, carbon dioxide and oxygen, are not necessary to normalize pollutant concentrationsa and, hence, determine compliance with emission standards.

For those pollutants not subject to continuous monitoring requirements, Section 131(e)(3)(B) states that the regulations must require periodic stack testing at the affected facilities. The required tests must be performed no less frequently than: (1) every six months, or (2) or every year if the facility has complied with applicable standards for the previous two years. The testing requirements eliminate the discretionary authority of state agencies to establish the scope or frequency of testing considering the associated costs and benefits or modify same based on the historical performance of the facility. Both the monitoring and testing requirements also pose an undue burden on smaller facilities.

Section 131(e)(4) could also require the owner/operator of a resource recovery facility to assume responsibility for a testing program to determine impacts on the environment or humans. Such testing must include periodic sampling to detect "statistically significant levels" of pollutants in the environment. The program must also include biological sampling to detect any change in human blood or tissue concentrations of lead, mercury, cadmium, halogenated hydrocarbons, and dioxins. These testing requirements are unprecedented for stationary sources. Resource recovery facilities are not necessarily the only source or, for that matter, a significant source of these pollutants in the environment. The testing will not determine the culpability of air pollution or other environmental sources of these pollutants. Imposing such testing requirements on one particular source is both ineffective and unwarranted considering the emission levels from resource recovery facilities.

Permit Termination [§131(f)]

This section terminates permits issued to resource recovery facilities pursuant to the PSD or NA Area regulations on the date five years after issuance, unless the affected facility is in compliance with all requirements under this section. The EPA Adminstrator or state agency must certify, after notice and opportunity for public comment and hearing, that such facility is in compliance with all applicable requirements. Subjecting PSD or NA Area permits to review every five years singles out resource recovery facilities for intense scrutiny, when indeed other industrial sources pose a more significant threat to public health. This requirement dramatically increases the risk exposure of both the developers and vendors of resource recovery facilities, jeopardizing the financing of such facilities.

SOLID WASTE DISPOSAL ACT AMENDMENTS

The proposed legislation would amend the Solid Waste Disposal Act by adding a Section 4011, "Municipal Incinerator Ash." The comments on this section are provided below.

Regulations for Incinerator Ash [§4011(a)]

This section requires the EPA Administrator to promulgate regulations for the "management, handling, treatment, transportation, reuse, and disposal" of ash residue within one year of enactment of this amendment. The section specifically states that ash residue meeting the requirements of Section 3001(i)(1) and (2) is subject to the provisions of Subtitle D. This section then exempts ash residue from hazardous waste management and disposal requirements under Subtitle C of the Solid Waste Disposal Act. This action recognizes that residue should be treated as a special waste category subject to specific landfill disposal requirements. This approach ensures that the residue is managed in an environmentally accpetable manner, regardless of the results of extremely variable and possibly inaccurate test criteria and procedures.

Requirements for Ash Landfills [§4011(b)]

This section establishes the requirements for residue landfills. Such landfills must include: (1) two or more liners and leachate collection system between such liners, and (2) groundwater monitoring. The top and lower liners must prevent migration of any ash constituent through such liner during operation of the facility. The section provides specifications for the lower liner that would satisfy these requirements. A single liner may be used if assurances are provided that no constituent will migrate to groundwaster or surafe water at any future time. This latter condition can not be met in the real world.

Disposal of Treated Ash [§4011(c)]

This section permits disposal of residue in sanitary landfills meeting the revised criteria under Section 4010(c), if such residue has been treated in accordance with requirements promulgated under this section. At a minimum, treatment includes introduction of chemical stabilization agents to the residue prior to landfill disposal. This approach permits continued disposal of residue in sanitary landfills provided the residue is stabilized or otherwise treated prior to disposal. This provides considerable latitude to resource recovery developers and vendors in residue disposal.

Testing Criteria and Procedures [§4011(d)]

This section mandates that the Administrator promulgate testing criteria and procedures for identifying ash characteristics that may pose a public health or environmental hazard. The Administrator must consider all potential pathways of human or environmental exposure, including inhalation, ingestion, dermal contact, and leaching. The section requires that the Adminstrator, at a minimum, consider appropriate methods to determine leaching, total chemical analysis, respirability, and toxicity. The owner or operator of any municipal waste incinerator may then be required to test such ash in accordance with the testing criteria and procedures. If the residue is disposed of in a complying landfill, testing would provide no useful regulatory purpose and, therefore, should be waived.

I hope that these comments are of assistance to the Committee in developing appropriate legislation for air emissions and ash residue from municipal solid waste incinerators. If CSI can be of further assistance, please do not hesitate to contact Mr. Fran Buhler or me at (617)542-3070.

Sincerely,

Ian B. Thomson
Senior Associate

IBT/dmf

ATTACHMENT

COMMENTS ON PROPOSED SENATE LEGISLATION
ISSUED AUGUST 10, 1987

Provided below are comments on the issues raised in the letter sent by Senator Burdick and other Committee members to Lee Thomas, Administrator of the Environmental Protection Agency on August 19, 1987.

- Requirements for Existing Facilities. The Environmental Protection Agency or appropriate state agency should be responsible for specifying emission standards for existing sources. These agencies have the necessary engineering and scientific expertise to weigh the environmental benefits and economic consequences of such standards. More appropriately, the EPA should provide guidance to states in developing such standards that

- Standards for Alternative Technologies. The Environmental Protection Agency should have the discretion to establish different emission standards for alternative processing technologies (e.g., mass-burn, refuse-derived fuel, and starved-air). The pollutant discharges from these technolgies can vary significantly; therefore, the control requirements could also be considerably different. Again the EPA should be responsible for determining the bases for the emissions standards based on the engineering and scientific expertise.

- Health-Based Standards. The EPA already has authority under the Clean Air Act to establish health-based standards. The health risk assessments performed for numerous resource recovery facilities indicate that resource recovery facilities do not pose significant acute or chronic toxicological effects to the exposed population. Therefore, health-based standards specific to resource recovery facilities are not warranted to protect public health. In addition, such standards are not useful in determining the culpability of specific sources.

- Feasibility of Minimum Standards. The minimum standards established in the draft legislation exceed both criteria issued by various state agencies and guaranteed by technology vendors. In particular, the various state agencies have performed extensive analyses of potential health effects of pollutant discharges and technical feasibility of alternative controls in developing emission standards for municipal incinerators. These standards that have evolved from this process are generally consistent and more than adequate to protect public health.

- Retroactive Standards. Requiring existing facilities to upgrade control devices or retrofit additional devices may threaten the economic viability of the project and cause a serious solid waste disposal crisis for the project developer. Such action should only be based on case-by-case evaluation of the environmental benefits and the economic consequences associated with the additional control.

- Product Control and Source Separation. Prohibitions on product composition, source separation, and recylcing are solid waste management practices beyond the control of the operator of resource recovery facilities. Such practices are more appropriately addressed in the solid waste management plan applicable to the developer served by these facilities under the Solid Waste Disposal Act.

- Solid Waste Management Plans. The operator of a resource recovery facility shoudl not be held accountable for implementation and enforcement of the solid waste management plan. These requirements must be the responsibility of the developer of such facilities.

- Operator Training. Operator training and certification are more appropriately addressed at the state level. The EPA could issue guidelines to assist the states in developing training programs, but should not preempt the state in certifying operators.

ENVIRONMENTAL DEFENSE FUND

Comments of the Environmental Defense Fund on draft legislation to regulate ash residues from municipal solid waste incinerators

September 4, 1987

EDF appreciates the opportunity to comment on the August 7 draft of proposed ash legislation. We share the Committee's concern that regulation of ash management has been seriously inadequate to date. We would be happy to continue to assist the Committee in developing a more protective approach.

EDF believes that the starting point for evaluating this or any other scheme for ash management must be the character of the ash itself:

* Incinerator ash contains very high levels of several toxic metals that cause severe health effects.

  - The total lead content of combined fly and bottom ash is several parts per thousand. This concentration range is tens of thousands of times higher than the current lead drinking water standard and hundreds of times higher than lead levels in natural soils.

  - Fly ash contains even higher levels of many of these metals. A lead content as high as several percent by weight is quite common. Several toxic metals (lead, cadmium, arsenic, mercury) typically occur in fly ash at levels thousands of times higher than those found in natural soils.

  - Several other toxic metals are also present at high levels in fly and combined ash: cadmium, arsenic, mercury, zinc, copper, etc.

* Certain of these metals -- lead and cadmium in particular -- are readily leachable from incinerator ash at levels that exceed the limits defining a hazardous waste.

  - Virtually every sample of fly ash ever tested using the EP toxicity test has exceeded the limits for lead or cadmium (usually both) defining a hazardous waste.

  - More than half of the combined fly and bottom ash samples tested using the EP test have exceed the limits defining a hazardous waste, usually for lead and occasionally for other metals as well.

  - Hazardous levels of lead are leaching from the ash generated by state-of-the-art incinerators having acid gas scrubbers, even when water alone (rather than the acidic leaching medium used in the EP toxicity test) is used to extract the ash. This is because the lime added by the scrubber increases the alkalinity of the ash to a point where lead is readily soluble in water. (Unlike most other metals, lead is amphoteric, that is, soluble under both acidic and alkaline conditions.)

- Incineration concentrates and mobilizes the metals present in municipal solid waste, opening up several additional pathways of exposure that were not previously available. This is especially true for fly ash.
    - Physically, metals in ash are preferentially located on the surface of small ash particles that are readily subject to dispersion by wind or water, and that are the most easily inhaled or ingested if exposure occurs. In contrast, metals in the original waste are largely imbedded in a bulky matrix.
    - Chemically, metals in ash are preferentially in the form of metal chlorides or hydroxides, which are more easily dissolved in water -- that is, more leachable -- than were the metals in the original municipal solid waste.
- Incinerator ash is toxic when tested by several means in addition to the EP toxicity test. Fly ash has been found by EPA and others to be acutely toxic to aquatic organisms; the toxicity is thought to be due to metals and/or dioxin in the ash. In addition, high levels of several carcinogenic metals are routinely found in both fly and bottom ash. It has been directly demonstrated that toxic substances in ash can be readily taken up by plants and animals exposed to the ash.
- Metals are forever: no environmental processes can destroy metals, so that once disposed of in the land they remain toxic and potentially hazardous indefinitely.

Thus, incinerator ash frequently qualifies -- both technically and legally -- as hazardous waste when evaluated by not just one, but several different criteria. Fly ash -- and combined ash containing fly ash -- routinely possess these characteristics. EDF cannot endorse management of ash in a manner that is less protective than that required for other hazardous wastes.

Major Concerns

Before turning to ash management issues, we note that, as a general matter, we have an overriding concern about the wisdom of creating a new category of wastes in addition to the existing categories of hazardous and solid wastes. EPA is already struggling to meet the burden of promulgating Subtitle C and Subtitle D regulations on the schedule established by Congress. This bill would simply create yet more work for the agency to do. In addition, by creating an even more complex statutory and regulatory scheme, the bill also would make compliance and enforcement efforts all the more difficult. Finally, this draft bill will send a bad message to the regulated community: that the integrity of the RCRA system is open to attack whenever a sector of the regulated community can make out a convincing hardship argument.

With regard to management of ash, EDF is concerned that the draft bill would remove ash from the laboriously developed subtitle C program for controlling hazardous wastes without providing an equally protective management approach. Though the draft bill specifies some of the design standards for disposal facilities, it omits many other features of the Subtitle C scheme. Chief among those are a permitting system, corrective action requirements, financial responsibility requirements (particularly for privately owned disposal sites), manifesting requirements, and inspection authorities. In addition, as discussed below in the specific comments section, we have some concerns about the wording of proposed section 4011(e)(2), which addresses enforcement authorities.

As we understand it, one of the primary motivations for exempting ash from subtitle C is the financial community's reported reluctance to fund projects bearing the "stigma" of Subtitle C. If that problem is truly insurmountable under the existing regulatory scheme, then the solution should be closely tailored to that problem by changing the name of the regulatory program but not the substance of its requirements. The requirements of subtitle C were adopted because they are necessary to ensure the safe handling of dangerous substances. There is no rationale for exempting ash from these requirements, inasmuch as ash -- particularly flyash -- routinely exhibits hazardous characteristics. If such an approach under subtitle D is pursued, we think it is very important to expressly adopt by incorporation all of the relevant elements of the subtitle C program.

Another concern is that the proposed legislation would apparently exempt ash from the land ban, the last phase of which pertains to characteristic wastes. Given the care with which Congress formulated these provisions of the 1984 HSWA, such a course of action should not be adopted without careful consideration of all of its consequences.

A final major problem already witnessed in several cases is the construction and startup of incinerators without capacity to dispose of the ash in a properly designed landfill. This has led to a decision to allow substandard disposal rather than shutting down the incinerator. In EDF's view, the only way to prevent these no-win situations from arising is to require a demonstration of guaranteed ash disposal capacity prior to, or as part of the process of, obtaining a permit to begin construction of a new incinerator. Further, that demonstration of capacity should be based on the most stringent disposal scenario that could be required.

Fundamental Objectives of Ash Management

The major objective of any legislative initiative to accomplish more environmentally sound ash management must be to reduce the hazardous character of the ash. In EDF's view, any legislative approach to reducing the hazards of ash must provide for the development of strong incentives and regulations to accomplish the following:

- Separately test and manage fly and bottom ash.
- Dispose of ash separately from other wastes.
- Encourage or require treatment of ash prior to disposal using methods demonstrated to effectively reduce both its present and future hazards.
- Keep toxic metals out of products that find their way into the municipal wastestream and keep materials containing such metals out of incinerators.

The first three means of reducing the hazards of ash are clearly within the scope of the proposed legislation. All three, however, involve management at the back end, that is, after hazardous ash has been generated.

The last objective may at first glance appear to be beyond the scope of this legislation. If, however, steps were taken to remove metals from trash prior to incineration, management of the resulting cleaner ash could be accomplished in a manner that is more protective than disposal of toxic ash even in a state-of-the-art landfill. Incentives to reduce the toxicity of ash at the source will be weakended or eliminated if the less than fully protective -- and generally less expensive -- provisions of the proposed legislation are adopted.

Unfortunately, in EDF's view, the proposed legislation as currently drafted does not provide sufficient means to accomplish any of these key objectives. The effect of the proposed legislation on each of these objectives is discussed briefly below. Additional issues raised by various provisions of the proposed legislation are discussed as appropriate under each section.

Separately test and manage fly and bottom ash. The intent and language of the proposed legislation's testing provision is unclear. Subsection (d)(2) states that EPA "may require" testing of ash, apparently of fly and bottom ash separately, though this is unspecified. It then states that, if mixed, "such combined ash must also be tested" (emphasis added). This langauge should be revised to clearly indicate what ash streams shall be subject to the testing provision.

More troubling is the apparent lack of any connection between the testing and ash disposal provisions. As currently drafted, the proposed legislation would allow (or require) that all ash -- regardless of whether it passes or fails the tests -- be disposed of by one of the three means specified in subsection (3)(b) and (3)(c).

There is clear and growing evidence indicating that for both economic and environmental reasons, separate management of fly and bottom ash is essential (see Attachment 1). Available data indicate that mixing actually increases the total amount of ash that can be expected to fail testing procedures and must be managed as hazardous waste. This is demonstrated by the fact that combined ash qualifies as a hazardous waste much more frequently than does bottom ash alone. Separate management of fly ash (which is only 5-10% of the total amount of ash) would reduce the total amount of ash that would have to be managed as a hazardous waste.

In addition, mixing compromises our ability to effectively treat ash, since treatment is more effective (and cost-efficient) when applied to a smaller volume/more concentrated waste.

Unfortunately, the provisions of the proposed legislation do not create any incentive to separately manage fly and bottom ash, since all ash is handled generically. EDF believes that, at a minimum, separate testing of fly and bottom ash (and combined ash, if generated) must be required; among other benefits, this would provide the information needed to demonstrate on a facility-specific basis the benefits of separate management. Second, in EDF's view, for any ash found to fail these tests, none of the proposed legislation's disposal options are sufficiently protective of human health and the environment.

Dispose of ash separately from other wastes. The proposed legislation would allow or even encourage the co-disposal of ash with other types of waste. Co-disposal is recognized by virtually all parties, including the incinerator industry itself, to actually increase the hazards posed by disposal of incinerator ash (see Attachment 2). Recent data clearly indicate that the so-called buffering capacity provided by the alkaline nature of ash is insufficient to ensure stability of toxic metals over the long term in a typical landfill setting (see Attachment 1).

Monofilling is necessary but not sufficient. The proposed legislation would require double liners for a co-disposal landfill, while only a single liner would be required for a monofill containing only ash. (In addition, as presently drafted, the requirements for leachate collection and groundwater monitoring applicable to a co-disposal landfill would not apply to a monofill. We trust the latter is simply an oversight.)

There is simply no technical basis for the double standard this proposed legislation would establish between co-disposal landfills and ash monofills. The effect would be to allow ash that has been found to be hazardous waste under existing regulations (and under any reasonable testing regime developed through this legislation) to be disposed of in a monofill with less containment than is required for any other hazardous waste.

The increasing use of acid gas scrubbers on new incinerators appears to be resulting in an actual enhancement in the leaching of lead from the ash generated by such facilities, even when the highly alkaline ash is leached using water, rather than an acidic leaching medium (see Attachment 3). These data call into serious question the assumption behind the proposed legislation's two-tiered approach: that monofilled ash is sufficiently less leachable than co-disposed ash so as to necessitate only a single liner.

In EDF's view, monofilling is a necessary but not sufficient component of proper ash management. Monofilling should be required. However, monofilling does not supplant the need for full state-of-the-art containment with leachate collection and groundwater monitoring as additional essential design components.

Encourage or require treatment of ash prior to disposal using methods demonstrated to effectively reduce both its present and future hazards. The proposed legislation would provide for less stringent disposal of ash treated in accordance with regulations to be developed under the new Section 4011. It also states that simply mixing fly and bottom ash, or mixing ash with other solid waste, does not constitute treatment, a position that EDF strongly endorses.

This provision has three serious shortcomings, however. First, the nature of treatment standards to be developed by EPA is left entirely unspecified. It is not even required, for example, that treated ash be subject to and capable of passing the testing procedures to be developed. Moreover, given the long-term hazards posed by metals in the ash, it is essential that any allowed treatment be effective for as long as such constituents remain toxic. Treatment must be carried out in a manner that provides full protection during all management steps up to and including ultimate disposal. In EDF's view, it is essential that these types of requirements be specified in the proposed legislation's treatment provisions.

Second, the proposed legislation contains no treatment permit requirement, so that little or no control over the means by which treatment is carried out would be possible. As a result, there is no means of assuring that the mandated treatment is carried out effectively and safely. Given that, in most cases, treatment of a hazardous waste is involved, the lack of a permit provision must be addressed.

Third, the provision relies heavily on landfill standards yet to be developed by EPA to ensure that treated ash is disposed of safely. The nature of the "revised criteria promulgated under section 4010(c)," which are referred to in subsection (c) of the proposed legislation, are currently an unknown entity. There is no basis for assuming that they will be tailored to or able to properly manage a waste with the characteristics of treated ash.

For all of these reasons, EDF cannot support the treatment provisions of the proposed legislation. EDF is more supportive of the comparable provisions of Senate Bill 1566, which address many of the above concerns. We urge that you include similar provisions in revising the current draft.

Keep toxic metals out of products that find their way into the municipal wastestream and keep materials containing such metals out of incinerators. The effect of this proposed legislation would be to seriously reduce the stringency of disposal and management requirements applicable to a waste that has been shown to have the characteristics of hazardous waste. It would also promote the mixing of fly and bottom ash, resulting in a larger amount of more toxic ash than if mixing were not allowed. Finally, it divorces the management requirements applicable to incinerator ash from the testing provisions that are intended to measure various hazardous characteristics of the ash.

Each of these provisions seriously undermines incentives to reduce the toxicity of ash at the source, through approaches such as product or process substitution, recycling, source separation, and preprocessing. The true costs of using and disposing of toxic materials in our trash are not reflected in a scheme that allows for less than fully protective management of ash residues. In this respect, the proposed legislation would essentially codify a subsidy for the continued use and improper disposal of such materials. For these reasons, it would also promote the continued use of the mass burn approach to incineration; this approach ignores the need to dissect the wastestream in order to use incineration only for those materials that can be safely burned. In EDF's view, the problem of toxic ash is a direct result of this blind approach to the use of incineration.

Additional Comments on the Proposed Legislation

Section 4011.(a)(1): The management activities for which regulations are to be developed should explicitly include storage. This activity takes place in some form at virtually every facility at some time, and can pose substantial hazards.

Section 4011.(a)(3): Change "may" to "shall" and "or" to "and." In addition, the proposed legislation does not address at all another major waste generated in conjunction with ash: the quench water that is initially in direct contact with the ash. This waste has itself been demonstrated to contain high levels of toxic metals leached from the ash and, in some cases, to constitute a hazardous waste. Many examples of its improper management have been documented, including direct runoff into adjacent waterbodies or leaking of such water from trucks carrying ash. All of the regulations to be developed for ash apply equally to quench water.

Section 4011.(b)(1)(B): The proposed legislation should provide EPA with more specific direction regarding groundwater monitoring. In EDF's view, the character of ash is such that the nature and extent of groundwater monitoring required under this section should be the functional equivalent of that required under subtitle C of RCRA. At the very least, this should be so stated in this provision.

Section 4011.(b)(2) and (3): Reference is made to "any post-closure monitoring period" in each of these sections. However, nothing is specified as to the length of such period or even who will determine this. As with groundwater monitoring, EDF believes that there is no justification for post-closure requirements that are any less stringent than those required under subtitle C.

Section 4011.(d)(1): The variety of pathways for exposure to incinerator ash are of concern during essentially all phases of management of this material, from the point of generation to final disposal. This includes handling at the incinerator, storage, transportation, treatment, reuse, and disposal. The list of such activities at the beginning of this section should specify storage. In addition, the parenthetical phrase near the end of this subsection excludes all management activities but disposal or reuse, for reasons that are not clear. Either all management activities should be listed here, or the phrase should be deleted, since the full list is included earlier.

Section 4011.(d)(2): line 1, change "may" to "shall"; line 3, add "storing after "handling"; line 3, change "such ash" to "fly and bottom ash"; line 6, change "must" to "shall."

Section 4011.(e)(1): This section would create a requirement that any facility receiving ash "shall be subject to a permit program or other system of prior approval and conditions . . . ." In EDF's view, only a permit program (rather than some sort of ambiguous "other system") for ash facilities would be sufficient. Moreover, such a permitting program should be subject to the public participation requirements of section 7004(b), in order to ensure that their is adequate notice and opportunity for public comment.

Section 4011.(e)(2): This section appears to be intended to make Subtitle C enforcement authorities applicable to ash. We strongly support this objective. We are concerned, however, that the proposed language may not accomplish that purpose (or at least may generate needless litigation), given that proposed section 4011.(a)(1) provides that municipal ash "shall be subject to this section and subtitle and not subject to the provisions of subtitle C." Accordingly, we urge that proposed section 4011.(e)(2) be rewritten as follows:

> Notwithstanding the provisions of section 4011(a)(1) of this chapter or any other provisin of this chapter, the term "requirements of this subtitle" in section 3008 shall be deemed to include any requirement or regulation under this section.

We hope that you find these comments to be helpful. We look forward to working with you on this important issue.

Sincerely,

Richard A Denison

Richard A. Denison
Staff Scientist

Karen Florini

Karen Florini
Staff Attorney

ATTACHMENT 1

MIXING OF FLY AND BOTTOM ASH AS "TREATMENT"

Fly ash and bottom ash are separate wastes, possessing distinct properties and generated at different points and by different processes in the operation of an incinerator. In most cases, however, the two are mixed prior to disposal. Because fly ash is not specifically listed as a hazardous waste under federal regulations, it is not subject to the RCRA mixture rule, under which generators of listed hazardous wastes cannot escape compliance with subtitle C regulations simply by diluting such wastes with non-hazardous wastes. Although EPA has proposed to close this loophole in the mixture rule, the owners and operators of municipal incinerators continue to mix fly and bottom ash in order to dilute the toxic constituents of the fly ash. However, this mixing does not effectively alter the hazardous character of the waste.

Some consider mixing of fly and bottom ash to constitute a form of treatment due to a so-called "stabilizing" effect on metal leaching provided by the higher alkalinity of bottom ash. However, the efficacy of such "treatment" is subject to serious question. First, the alkalinity of combined ash varies considerably. In one study performed by researchers at the State University of New York at Stony Brook, combined ash from two facilities varied in alkalinity by a factor of 100,000; one of the two ash samples was in fact almost neutral in pH. Second, certain toxic metals -- most notably, lead -- are soluble in water at both low and high pH, so that maintenance of an alkaline (high-pH) environment does not protect against leaching.

Third, long-term stability of the alkaline character of incinerator ash is by no means assured. Given the tendency for landfill environments to become more acidic over time, any buffering capacity provided by mixing will likely serve only to delay, not to prevent, the leaching of metals. Studies by the Canadian government and the State of Maine, among others, indicate that the buffering capacity provided by ash alkalinity is likely to be insufficient to curtail leaching of metals even in the short term in a typical landfill setting. Indeed, the Canadian government is considering adopting regulations that would preclude any land disposal of MSW incineration ash without prior treatment.

Finally, perhaps the most direct evidence of the inadequacy of mixing as a means of ash treatment is the frequent exceedance of EP limits seen with combined ash (discussed above, and included in Appendices A and B.) These data provide direct empirical evidence of the inadequacy of this currently widespread practice.

There are several additional logical arguments against mixing fly and bottom ash. While the decision to combine these wastes is often based on practical design considerations such as ease of subsequent handling and plans to dispose of all of the ash together, it fails to acknowledge potentially significant differences in these ashes: in particular, the typically much greater amount of toxic chemicals present in fly ash relative to bottom ash. Combining these ashes precludes the possibility of separate handling and disposal, which is one regulatory option being given serious consideration by by certain states and EPA.

On a practical level, because mixing increases the concentrations of metals in the combined ash, it also increases the likelihood that all of the ash may have to be managed as hazardous waste, whereas with separate handling only the fly ash (roughly 5 to 10 percent of the total ash residue) would require such management.

Finally, mixing precludes or reduces the opportunity for treatment of fly ash to render it less toxic. It is well established that most treatment technologies and strategies work only or most efficiently on concentrated wastes. Thus, diluting the much more concentrated metals in fly ash into a large volume of less contaminated bottom ash may actually defeat efforts to reduce the problems posed by MSW incineration ash toxicity.

ATTACHMENT 2

CO-DISPOSAL OF RAW MSW AND INCINERATOR ASH

Most incinerator ash is now disposed of in sanitary landfills along with a variety of other solid wastes: raw MSW, commercial waste, and non-hazardous industrial wastes. Given the hazardous nature of MSW incineration ash, the wisdom of this practice is highly questionable, for several reasons.

Co-disposal can greatly enhance the leaching of metals from MSW incineration ash. As raw MSW is decomposed through the action of microorganisms, acids are produced that render many of the metals in ash more water-soluble. This effect is cumulative: as long as decomposition is occurring -- a process that takes many years -- landfill conditions become increasingly acidic and leaching of metals continues and may increase.

In addition, leaching is likely to be enhanced by the presence of a wide variety of chemical substances contributed by household waste. Common discarded items such as nail polish remover, vinegar, and household pesticides contain chemicals that can enhance the leaching of metals or toxic organic chemicals present in ash. Leaching may also be enhanced by substances (e.g., solvents, acids, metal complexing agents) very likely to be present in commercial or industrial non-hazardous waste, or even in hazardous waste from so-called "small quantity generators," who may legally dispose of such wastes in municipal landfills.

This enhancement of leaching potential is not simply a theoretical possibility. In direct tests conducted on landfill leachate, it has been demonstrated that leachate derived from MSW is far more aggressive at leaching metals from incineration ash than is water alone or leachate solely from ash.

Co-disposal can also affect the integrity of the landfill itself, leading to enhanced penetration of water into the landfill or increased leakage of leachate from the landfill. The bulky nature of raw MSW can affect subsequent behavior of the landfill even after closure. For example, the rate and extent of settling of the landfill may be changed, which would in turn alter the effectiveness of measures taken to reduce infiltration of rainwater into the waste: settling could lead to the formation of cracks in, or enhanced erosion of, the cap placed over the landfill upon closure.

Substances present in raw MSW mentioned above may also affect the permeability of liners designed to contain the landfilled material or its leachate. A variety of common solvents are known to increase the permeability of both synthetic and soil (e.g., clay) liners. This problem is by no means unique to a landfill accepting ash; indeed, countless examples of leakage from traditional sanitary landfills and subsequent environmental damage (e.g., groundwater contamination) have been documented. However, the presence of ash -- with its high levels of readily leachable metals -- makes the consequences of leakage far more serious.

Proposals to isolate ash from other wastes in so-called ash "monofills" may provide a partial solution to these problems. While such a practice deserves further consideration, it would be essential that such units be designed to provide maximum containment, leachate collection, and groundwater monitoring.

ATTACHMENT 3

THE EFFECT OF ACID GAS SCRUBBERS ON ASH AND TOXIC METAL LEACHING

Acid gas scrubbers are pollution control devices designed to control air emissions of hydrochloric acid and sulfur dioxide gases. While only three operating U.S. facilities possess such devices, most of the facilities expected to be constructed in the future will be equipped with acid gas scrubbers.

Acid gas scrubbers work by injecting a lime slurry into the flue gases in order to neutralize acid gases. The resulting lime is changed into a dry powder by the heat of the gases, and is subsequently collected by the particulate control devices (ESPs or baghouse filters), where it is intimately mixed with fly ash particles. The presence of lime renders the ash highly alkaline, even when the fly ash is diluted by mixing it with a much larger volume of bottom ash. A final pH of the combined ash of pH 11.5 or higher is typical.

Test data for ash from the three operating U.S. facilities with acid gas scrubbers indicate that lead is leached from such ash at levels very near or exceeding the EP limit defining a hazardous waste (see Appendix B for a discussion of results for Marion County, OR, Claremont, NH, and Framingham, MA facilities). While the leaching of other metals such as cadmium appears to be reduced by the high alkalinity of the ash, this is not the case for lead. The data clearly show that lead is leached at hazardous levels, not only under the EP test, but when the ash is extracted using distilled water alone.

This enhanced leaching of lead found in the EP and distilled water tests is not surprising -- and in fact is expected -- in light of well-established chemical knowledge of lead. Recall that one effect of the introduction of lime into ash through acid gas scrubbing is that the pH of the ash samples is quite high, often above pH 12. Lead is known to be an "amphoteric" metal, i.e., is soluble in water at both low (acidic) and high (alkaline) pH values. While the EP test subjects ash to low-pH conditions and therefore leads to enhanced lead leaching, the addition of lime results in the ash being highly alkaline, and lead is highly soluble under these conditions as well.

The adequacy of the EP test to predict leaching behavior of ash in a monofill -- entirely segregated from other waste -- has been questioned. The EP test uses an acidic medium to simulate the presence of organic acids produced by the decomposition of the raw waste with which the ash would be mixed in a codisposal scenario. Many have argued that the EP test is not appropriate for a monofill, which would be expected to comprise a highly alkaline environment, especially one containing ash derived from a facility having an acid gas scrubber. However, the finding that lead is readily leached from such ash even by distilled water -- simulating a monofill scenario -- clearly demonstrates that monofilling alone will not provide a solution to the ash disposal issue.

These very disturbing findings highlight a general sense that many serious unresolved questions remain concerning mass burn incineration, and that in our attempts to address one problem, others that are potentially even more serious are uncovered. To address air emissions of hydrogen chloride and sulfur dioxide, acid gas scrubbers are clearly necessary. But the lime that these scrubbers introduce into the ash has a profound effect on the chemical form and leaching behavior of lead present in the ash, onbe that cannot be ignored in addressing the proper management of ash. This example dramatically illustrates the integral link that exists between air emissions and ash residues, and the need to examine all of the consequences of proposed control strategies.

MPA **Maine People's Alliance**

Capital Office: 8 Crosby Street, P.O. Box 2490, Augusta, Maine 04330 (207) 622-4740

August 28, 1987

United States Senate
Committee on Environment and Public Works
Room 458 Dirksen
Washington, DC 20510-6175

Dear Chairman Burdick and members of the Committee:

On behalf of the Maine People's Alliance (MPA), I wish to thank you for this opportunity to comment upon the important issues being debated by the committee. Emissions from municipal solid waste incinerators pose definite threats to public health and the environment in Maine and across the nation, and we applaud the efforts of the Committee to establish a Federal program to regulate and manage the emissions and ash from these facilities.

Based on the dangers of incineration, MPA will continue to oppose municipal solid waste incineration as the means of first choice in disposing of solid waste. Clearly recycling and source reduction are the most environmentally benign options available and should be utilized to the maximum extent possible. MPA is pleased that this Committee has included provisions in the draft legislation (Sec.131. (a)(4)(b)) which deny the issuance of a permit for a new incinerator until the jurisdiction has established a solid waste management plan which maximizes source separation, recycling and source reduction. Incineration should only be considered as the disposal method of last choice.

Maine has recently passed legislation establishing a Comprehensive Solid Waste Management Policy. Although this policy intitiates a recycling study for the state and creates more stringent siting requirements for incinerators, the bill does not establish standards for emissions or ash from resource recovery plants.

The consequences of loose standards for emissions and ash are being felt particularly in our state. Maine's single commercial ash landfill, located in Danville, has contaminated several wells with toxic leachate. Also, Maine's acid rain problems are being exacerbated by municipal incinerators in the Mid-West and South.

This state needs the Congress to act quickly. With two incinerators under construction and several more in the planning stages, and a state agency (DEP) unwilling to regulate the emissions and ash generated by these plants, Maine looks to the Congress for direction and protection. It is my hope that the following comments on your letter of August 10 will assist the Committee in drafting legislation which steers municipalities towards recycling and source reduction, and away from the dangers posed by incineration.

1) MPA suggests that emissions standards for new incinerators, based on the emission reductions achieved in practice through application of the best available control technology, should apply to existing units at a later time. Senator Mitchell himself supported establishing mandatory cleanup schedules in the Superfund Bill, knowing that if left to the EPA, the cleanups would drag on indefinitely.

We believe that the draft legislation, twelve months after enactment, should direct the administrator to promulgate regulations which shall require existing municipal waste incineration units to comply with the emission standards within two years, rather than the six years allowed in Sec. 131. (4)(d). With only 2 of 70 operating plants employing scrubbers, that 6 years is much too long a time to allow these plants to continue polluting the ambient air. For New England the issue of emissions is most serious. U.S. refuse-burning facilities emit more than 40 times the hydrogen chloride generated by coal-burning plants. Incinerators produce other acid gases including oxides of nitrogen; all contributing to the acid rain problems suffered in this region.

2) Emission standards and definitions of BACT should not vary according to the type and size of incinerator. If the aim of this legislation is to provide predictability and uniformity then one set of standards and BACT should apply to all types of facilities. This set of standards should then be applied in such a fashion as to direct municipalities to choose the type of facility which pollutes the least.

3) MPA supports the Committee's efforts to establish provisions for health-based standards beyond emissions levels based on BACT. However, the legislation should clearly indicate that the more stringent of the two should be applied to regulate emissions and ash.

4) The levels for emissions specified in Sec. 131.subsec.,(2)(B) should and can be lowered. This legislation should establish definitions of BACT based on a world-wide perspective, rather than taking an average of the five best plants in the U.S. We suggest that BACT be based on an average of the five best municipal incinerators in industrialized societies. Japanese technology has limited sulfer dioxide emissions to 2 ppm, as opposed to the 40 ppm suggested in the draft bill. This legislation should aim for the best standards available, not the U.S. industry average.

5) Due to the nature of the emissions of these plants and the known health threats posed by exposure to toxins contained in the emissions, this legislation should require that incinerators meet updated standards every two years.

6) Without a doubt, source separation and recycling is the best way to protect public health and the environment from the dangers of harmful emissions and ash leachate. Explicit Federal authority is badly needed to regulate product composition and eliminate excessive packaging to the maximum extent possible. Specifically, the Federal government should control the usage of PVC plastics in food packaging, as this material produces dioxins and hydrogen chloride upon incineration. The failure of the Maine Legislature to enact source reduction legislation points out the need for a Federal program of source reduction.

Recycling and source separation make sense both environmentally and economically. Removing metals and plastics from the waste stream will dramatically reduce toxic emissions and ash. Recycling and source separation also increase efficiency of the incineration process. For these reasons, and our state's failure to enact a mandatory recycling policy, MPA heartily endorses the Committee's suggestions in Sec. 131. (a) subsec.,(4)(b) which prohibit the granting of a permit for a new incinerator unless the jurisdiction being served has prepared an enforcable solid waste plan which maximizes recycling and source separation.

7) Regarding the means to make the requirements for a solid waste management plan and the elements dealing with source controls enforceable against the appropriate parties, MPA has four specific recommendations:

A) Make Sec. 131. subsec. (4)(b) apply immediately upon enactment of the bill, rather than 18 months as presently drafted.

B) Require that the determination of incinerator capacity should reflect maximum recycling and source reduction. If capacity reflects recycling, the operators' risks will be reduced and situations of attempted importation of waste will be avoided. This will also reduce conflicts over siting and potential conflicts between operators and recycling proponents.

C) Follow West Germany's example of requiring resource recovery plants in each state to tie in through computer link with the environmental agencies of that state. Those facilities which exceed emissions standards are closed, and operators who knowingly violate regulations receive mandatory jail terms.

D) Extend citizen suits to cover the entire legislation.

8) MPA strongly supports inclusion of a requirement for adequate operator training. U.S. operators see their role in terms of providing energy, while operators in Japan and Europe view their role as one of pollution prevention. In these countries employees are trained from 6 to 18 months, learning how toxic chemicals are stabilizing in the furnace and captured in the stack, and they must have an engineering degree and undergo on-site training. The Congress should require mandatory training of resource recovery facility employees for no less than 6 months at an approved institute. In addition, the Congress should assist in the establishment of such a training institute.

Thank you for considering our comments and concerns on these issues, and please keep our organization updated on the developments of this crucial debate.

Sincerely,

Persis Grover
MPA Co-Chair

George Christie
Solid Waste Campaign Organizer

SAVE THE BAY

BOARD OF DIRECTORS
Dr. Vincent Rose
Chairman
Christopher H. Little, Esq.
President
Sarah B. Richardson
Vice President
Howard V. Hadfield
Vice President
Anna F. Prager
Vice President
Nancy A. LaPosta-Frazier
Treasurer
Paul A. Beaudette
Secretary
Gary L. Galkin
Frederick E. Goff, Jr.
Jane Harrison
Dr. Perry Jeffries
Charlotte E. Johnson
J. Michael Keating, Jr., Esq.
Dr. Mayer A. Levitt
Ginny Leslie
Margaret Goddard Leeson
Ronald K. Machtley, Esq.
J. Christopher Powell
John Rector
Burton Salk, Esq.
Gary C. Schuler
Kenneth B. Simons
Claudette Weissinger
The Hon. Robert A. Weygand
D. Wayne Wunsch

BOARD OF TRUSTEES
Alden M. Anderson
Howard W. Armbrust
Hugh D. Auchincloss, III
Walter L. "Salty" Brine
Mrs. Robert Wells Carton
The Hon. John H. Chafee
Richard C. Cranshaw, Jr.
Elizabeth Prince de Ramel
John P. Early
Robert A. Flynn, Jr.
Hope Drury Goddard
Richard Grosvenor
Theodore W. Hale
Charles G. Houghton, III
The Hon. Richard A. Licht
Al T. Lubrano
Arthur C. Milot
Robert E. Nickerson
Jane Parfet
The Hon. Claiborne deB. Pell
Mrs. Donald Ramsbottom
John T. Scanlon
Mrs. Alfred J. Shepherd
Robert S. Sparrow
Robert E. "Ted" Turner, III
Frank B. Whittemore
Ellicott Wright

Trudy Coxe
Executive Director

August 19, 1987

The Honorable Quentin Burdick, Chairman
Committee on Environment and Public Works
U. S. Senate
Washington, DC 20510-6175

Dear Senator Burdick:

On behalf of our 10,000 members, thank you for allowing Save the Bay the opportunity to comment on your proposed legislation to regulate municipal solid waste incinerators. We applaud your efforts to address this complex environmental issue. While air toxics are admittedly not our primary field of expertise, our experience in solid waste issues in Rhode Island has given us some knowledge which we are happy to share. Our comments follow the outline of questions posed in your letter.

1. Emission standards should apply to all incinerators, regardless of when those units were constructed. To allow incinerators to continue to pollute simply because they are antiquated is to miss the point of pollution control. If older incinerators are incapable of meeting these standards, then they should not be allowed to operate.

2. Emission standards should not vary depending upon operating and physical conditions for the same reason outlined above. The purpose is not to minimize each unit's impact, but to prevent the use of facilities which would impact human health. Operating parameters, however, must vary if differing incinerator types are to operate cleanly and efficiently.

3. Health based emission standards for incinerators are absolutely necessary. As this country's landfills close and we seek

434 Smith Street, Providence, Rhode Island 02908-3732 · 401-272-3540
Printed on Recycled Paper

other options for waste disposal, more and more incinerators are being planned. If we are to build this infrastructure, we must be absolutely certain that human health is protected. If human health standards are adopted in addition to Best Available Control Technology (BACT), the latter may be superceded and prove moot. This issue should be examined as soon as possible, in order to avoid years of implementation delay while BACT levels are determined, only to discover they are superceded. However, creating health-based standards requires long term human health impact studies which are simply unavailable. Thus, long term research is needed to improve our understanding. In the interim, extrapolations must be made from minimal data. Regulators, fearing legal challenges, are reluctant to make these "leaps." Strong statutory language is therefore needed to enable regulators to make these necessary extrapolations which may involve scientific uncertainty. If we are to err, it must be on the side of protecting human health. In addition, our experience in water quality issues has shown Agency reluctance to expand the list of regulated pollutants. After 11 years, EPA has still not created standards for all 126 priority pollutants defined by a consent decree (Natural Resources Defense Council v. Train, 1976) as a starting point for water pollution regulation. With more than 3,000 toxic combustion products, the problem could be more severe in this field. Legislation should attempt to counteract this inertia by including schedules for ongoing research, evaluation, and regulation. Needless to say, such a program requires sufficient funding to succeed.

4. Save the Bay is not qualified to evaluate the economic impact of the proposed legislation. However, we observe that the question--whether the standards will both protect human health and be economically achievable--may be misleading. Efforts to do both may prove futile. If the goal is to protect incinerators, then don't regulate. If the goal is to protect human health, then do not incorporate simple feasibility criteria. Unlike the regulation of an existant, private industry, your purpose is not to find a balance between environmental and business concerns. The issue at hand is to find the best way to manage our solid waste. If only a few incinerators can meet these stringent criteria, then we should build only a few incinerators and look for other options to dispose of our remaining waste.

5. If BACT standards are adopted, they should be reevaluated frequently to prevent 1987 technology from becoming the basis for regulation in perpetuity. Any breakthroughs in technology, and cost reductions due to economies of scale, should be quickly

reflected in emission requirements for all incinerators. In performing this evaluation, the Agency should be required to examine European and Japanese, as well as domestic, incinerators. As several studies have shown, stricter emission controls in these countries have led to much cleaner plants [Allen Hershkowitz, "Garbage Burning; Lessons from Europe: Consensus and Controversy in Four European States"; New York Legislative Commission on Solid Waste Management, "Resource Recovery and Solid Waste Management in Norway, Sweden, Denmark and Germany: Lessons for New York"]. In addition, BACT should not be allowed to backslide due to economic fluctuations, and temporary cost increases.

6. In order for incinerators to temper rather than fester our solid waste crisis, it is imperative that federal, state, and local agencies have the authority to regulate waste streams to require front-end separation. To state the obvious, output from an incinerator depends upon input. Materials which should be prevented from entering a facility include those which: a)offer greater energy value savings when recycled (e.g. paper and plastics); b)interfere with the facility's combustion efficiency (e.g. yard waste); c)reduce availability and life of facility and equipment through explosion, corrosion and slagging (e.g. plastics, metals, glass); d)contribute significantly to pollution emitted by the facility and/or to the cost of pollution control. Even more vital is Congressional leadership in recycling and source reduction. These upstream solutions offer tremendous potential to alleviate our waste problems in an environmentally and economically desirable fashion. Forward-looking governments, including the State of Rhode Island, are writing solid waste management plans and adopting policies that take an integrated approach to managing our wastes, including mandatory curbside recycling. The Environment Council of Rhode Island , a congress of all Rhode Island environmental organizations which has studied the issue in detail, believes that within ten years 50 to 60 percent of the waste stream can be reduced. I have enclosed a copy of its report, Solid Waste Management Policy which contains additional information. We urge you to adopt language similar to the Resource Conservation and Recovery Act, establishing a hierarchy for waste management with preference given to source reduction, reuse, and recycling.

7. Enforcement is the key to any regulatory program, without which it cannot succeed. Egregious violations require stiff enforcement action with penalties. We strongly urge you to incorporate citizen suit provisions, modelled on Section 505 of the Clean Water Act. This would allow concerned citizens the opportunity to ensure that Congressional intent is fully realized in the control of incinerators. Provisions must be made to handle more frequent, intermittent violations as well.

These should be dealt with through specific, automatic sanctions for specific violations. We refer you to the Rhode Island Department of Environmental Management's "Guidance on Resource Recovery Facilities," which includes specific provisions for dealing efficiently with specific violations. (Example: "A malfunction of any air pollution control equipment that will result in the exceedance of an emission standard in the permit will require shutdown of the units which would cause the exceedance. The units must remain closed until the malfunction has been identified and corrected.")

8. Operator training is key to the safe operation of any incinerator. For this reason, quality training of personnel should be required. You should be aware that the American Society of Mechanical Engineers is currently preparing an operator training curriculum.

As the Islip barge illustrated, we do not have an adequate solid waste disposal strategy in this country. Clearly landfills are not the answer. Currently many regions, including the State of Rhode Island, are investing large sums of money to build waste incinerators, hoping that they will prove a panacea. As these facilities are completed, they will significantly increase our already serious air pollution problems. The need for emission standards is therefore imperative. To focus on economically achievable emission standards, however, is to encourage the construction of this new infrastructure which may haunt us in the future. If some or most incinerators cannot operate economically while protecting human health, then they should be halted before they are built. There are other choices for waste disposal than bury or burn.

Save the Bay wishes you success in this important endeavor which will help shape the future of solid waste management in the United States. If we can be of further assistance, or if you have any questions regarding these comments, please do not hesitate to contact us.

Sincerely,

TRUDY COXE

Trudy Coxe
Executive Director
Save the Bay, Inc.

Encl: Environment Council of Rhode Island, Solid Waste Management Policy
Rhode Island Department of Environmental Management, Guidance on Resource Recovery Facilities

cc: The Honorable John H. Chafee

SIERRA
CLUB

330 Pennsylvania Avenue, S.E., Washington, D.C. 20003 (202) 547-1141

RECEIVED BY
[illegible] SEP [illegible] 5: 35
OFFICE [illegible]

September 3, 1987

Honorable Quentin Burdick
Chairman, Environment and Public Works Committee
United States Senate
Washington, D. C. 20510

Dear Mr. Chairman,

It is my understanding that you are soliciting comment on draft staff language that would be the basis for legislation to establish a Federal program to regulate and manage the emissions and ash from muncicpal solid waste incinerators. These comments are provided on behalf of the Sierra Club and address the language that would amend Subtitle D of the Solid Waste Disposal Act.

We believe that the available evidence indicates that fly ash generated from municipal waste incinerators has sufficient hazardous characteristics that it should be managed and disposed of in the same manner as a hazardous waste. Analyses of fly ash from municipal waste incinerators around the country have found high levels of lead and cadmium on a routine basis. In general, the more effective the air pollution controls, the higher the concentrations of these metals. Many of these wastes would qualify as hazardous wastes because of the high concentrations of these metals that leach upon application of the EPA toxicity test. The EPA toxicity test by no means accurately reflects the leaching potential for fly ash when it is exposed to other wastes in a mixed municipal landfill, such as would be permitted in paragraph (b)(1) of the staff draft. Therefore, we recommend that all fly ash should be subject to essentially the same requirements that apply to other hazardous wastes, including: design and operation, corrective action, closure and post-closure requirements.

Bottom ash may contain sufficient toxics that it, too, should be subject to the same requirements. Where fly ash and bottom ash have been mixed together, which we believe should be discouraged, the mixed ash product in many cases will contain sufficient toxic chemicals that it also should be subject to the same requirements.

"When we try to pick out anything by itself, we find it hitched to everything else in the universe." *John Muir*
National Headquarters: 730 Polk Street, San Francisco, California 94109 (415) 776-2211

Unfortunately, the staff draft language would allow the fly and bottom ash and any mixture of the two to escape many requirements of Subtitle C. For instance, paragraph 4011 (b)(1) would require landfills that are used for the disposal of both ash and other municipal wastes to meet some of the essential design and operational features of Subtitle C landfills. But it would not apply permitting, corrective action, closure, post-closure, and financial responsibility requirements. Each of these requirements is an essential part of the web that helps to ensure hazardous wastes are properly managed and disposed for as long as they remain hazardous.

In the staff draft, paragraph 4011 (c) allows ash to be disposed of in a Subtitle D landfill if it has undergone treatment. We believe that at a minimum, the statutory language should require that such treatment render the ash non-hazardous even when the ash is subjected to highly acidic wastes, as may be found in a municipal landfill. As we interpret the language of paragraph (c) together with paragraph (d), EPA could create a new category of waste which we will characterize as semi-hazardous treated ash. Under some circumstances, this ash could be disposed of in Subtitle D facilities. We believe that the establishment of new categories of waste is very poor public policy which may result in the creation of an administrative nightmare of differing treatment and disposal requirements based on theoretical degrees of hazard which bare little relationship to reality. We urge the Committee not to create or allow the creation of such a waste management system. Such a regulatory system would be well beyond EPA's capacity to administer.

Subparagraph (d)(2) allows, but does not require, toxicity testing for ash in order to determine the appropriate management option. We believe that a testing regime must be mandatory. This is particularly important for bottom ash, where typically the level and variety of toxic constituents is subject to wide variation. We believe it would be virtually impossible to make sound judgments regarding ash management without an effective testing regime.

Subparagraph 4011 (e)(2) appears to apply the enforcement authorities of Section 3008 to the requirements of the staff draft. However, it is unclear whether the criminal penalties of paragraph 3008 (d) or the corrective action requirements of paragraph 3008 (h) apply. In addition, it is not clear whether EPA would have the inspection authority provided in Section 3007 with respect to land disposal facilities used for ash disposal. These latter authorities are important tools for ensuring adequate compliance.

In conclusion, we urge the Committee to structure a regulatory regime that fully recognizes the hazardous nature of municipal incinerator ash. The sheer volume of incinerator ash that will be generated by the next generation of the more than 300 incinerators that will come into operation over the next five to eight years cries out for a policy that errs on the side of protecting public health. Unfortunately, incinerator ash is not nearly as benign as the constituent wastes from which it is derived.

It is clear that legislation to protect the public health and the environment from inadequate municipal incinerator ash management practices is necessary. The Sierra Club commends members of the Environment and Public Works Committe for moving quickly to grapple with this thorny issue.

Sincerely,

A. Blakeman Early

A. Blakeman Early
Washington Representative

UNITED STATES CONFERENCE OF MAYORS
1620 EYE STREET, NORTHWEST
WASHINGTON, D.C. 20006
TELEPHONE (202) 293-7330

September 1, 1987

Senator Quentin N. Burdick
Chairman, Senate Committee on
Environmental and Public Works
United States Senate
Washington, D.C. 20510

Dear Senator:

The United States Conference of Mayors and its National Resource Recovery Association (USCM/NRRA) is pleased to respond to your letter of August 10, 1987, asking us to answer questions regarding a draft legislative proposal to regulate air emissions from waste-to-energy (WTE) facilities for municipal solid waste incinerators (MSW). Please find enclosed materials which we hope you will find useful.

The underlying principle in our comments is that it is paramount that human health and the environment be protected by reasonable standards, but that undue costs should not be imposed on local governments that will delay the substitution of WTE facilities for existing landfilling practices.

We have significant problems with the approach taken in the draft. Principally, they include the following:

1) The use of a lowest achievable emission rate approach to set standards by pollutant. Such an approach is technically flawed when one takes into account sound engineering principles of the modern combustion process. It may not be possible to achieve LAER for every pollutant in any single facility.

2) The application in the draft legislative proposal of pollution control technologies that are not accepted, proven, or commercially available. Use of such unproven control technologies to establish standards is extremely risky and is paramount to playing Russian roulette with our nation's ability to dispose of solid waste.

3) The use of source separation and recycling as Best Available Control Technology. Source separation and recycling are not emission limitation technologies, but solid waste management programs. While we encourage their implementation through development of a national recycling policy, we do not believe they meet the test of "replicability" that is necessary when BACT is to be used as a basis for establishing national air emission

4) The inclusion of specific standard levels in the draft legislation. It is inappropriate to write standards directly into law, particularly when the Congress has an extremely limited technical record before it. The particular standards in the draft legislation are infeasible, not required to protect human health and could place a moratorium on all resource recovery financing while ensuring that relatively undesireable landfill practices continue.

5) Under the proposed legislation existing facilities would be required to retrofit within a six year period without regard to technological feasibility and economic realities, even if no measurable danger to the public health is found. Because existing facilities do not contribute significantly to health risks or the degradation of ambient air levels, USCM/NRRA supports grandfathering existing facilities from new emission standards imposed by the draft legislation. However, we would support the application of continous monitoring and operating training requirements for all existing facilities. If the Committee desires additional restrictions on existing facilities, it may want to consider that the Administrator require a state and local review of those facilities that have operated for longer than 10 years as of date of enactment.

6) Subjection of facilities to a new set of standards every five years. WTE facilities are financed on a long term basis, twenty years or more. This financing is impossible if potentially unknown, huge costs for retrofits can be imposed every five years, even if no significant risk to human health is found.

7) Mandating enforceability of state and local solid waste management plans. This issue is properly dealt with in RCRA, not the Clean Air Act. More importantly, source separation and recycling programs in the United States are still in the experimental and developmental stage and should not be the subject of costly and harassing law suits against state and local governments.

8) The draft proposes that local governments be responsible for changes in product composition. While we agree that product composition may play an important role in long term minimization of pollutants, we strongly disagree that such decisions can be made on a localized basis. Such policies and decisions must be made on a national basis, across the board, due to the nature of intrastate, interstate and international commerce.

9) Mandatory blood and tissue tests. This proposed requirement is designed only to inflame public concerns about facilities which emit far less pollutants than thousands of industrial processes which are not subject to this unscientic and impractical requirement.

We have submitted for your review an alternative proposal that will put into place promptly significant control and monitoring measures while providing for an expedited but feasible mandatory schedule for further EPA rulemaking.

The bottom line is that any legislation must provide sufficient flexibility for state and local governments to dispose of garbage safely and practically, providing incentives for movement away from landfilling. If Congress imposes a regulatory structure that creates a "gridlock" in using any waste disposal option, then it will have exacerbated immeasurably the existing national solid waste disposal crisis.

We would be happy for you to arrange to meet Mayors in your state to discuss the practical realities they face on this troublesome issue, and USCM/NRRA is at your service to deal with this difficult issue.

David Gatton
Director, Policy Anaysis
U.S. Conference of Mayors
National Resource Recovery
Association

Gerard Lavery Lederer
Asst. Executive Director
U.S. Conference of Mayors

INTRODUCTION

FEDERAL REGULATION OF AIR EMISSIONS FROM RESOURCE RECOVERY PLANTS

INTRODUCTION AND OVERVIEW

Pollution Control of Resource Recovery

The challenge for resource recovery is to assure that all cost-effective measures are taken to maximize the obvious environmental advantages of resource recovery balanced with waste reduction and recycling. These facilities are the nation's best hope for reducing the volume of material at solid waste landfills and minimizing groundwater contamination from this method of disposing of refuse. This will remain true even when effective source reduction and recycling goals are met. However, resouce recovery plants, like other methods of pollution control, must themselves be carefully designed, monitored and operated to ensure that environmentally harmful impacts are kept within acceptable limits. In particular, resource recovery plants generate air emissions and create an ash residue that while smaller in volume and more chemically stable than the garbage from which it was derived, must still be managed carefully.

Why Federal Regulation is Desirable to Help Resource Recovery Meet its Environmental Goals

It is our belief that new federal regulations are necessary to guarantee that the potential environmental benefits of the resource recovery plants are realized in practice. Resource recovery plants are now being planned and built in many areas of the country for environmental reasons but on a schedule which is very sensitive to cost of construction and operation. If pollution control costs are unnecessarily and radically increased, the rate of displacement of landfills will slow considerably. These plants are subject to the same federal and state environmental regulations that apply to all similar industrial processes. However, there are three reasons why additional, special federal regulations are appropriate.

First, resource recovery technology is an evolving but proven branch of engineering, particularly with regard to pollution control practices. Results of modern practices are outstanding. The municipal governments who are the primary purchasers of these plants would benefit from federal technical assistance, expertise and oversight to protect the major public investments in this technology.

Second, opponents of these plants have generated undue fears about toxic air emissions and hazardous residues. Municipal and state governments have been extremely sensitive to enivronmental concerns in permitting and siting. However, federal regulations will provide additional credibility and reassurance to the public.

Third, federal regulation can provide the uniform, predictable and stable regulatory environment that is necessary to facilitate financing of these plants. This will encourage a truly competitive national market for vendors of resource recovery facilities. Such a market will lower costs for the taxpayers who must ultimately pay for such projects.

USCM/NRRA Recommendations for Effective Federal Regulation

It is our strong belief that the key to meeting environmental, political and economic objectives is t a regulatory focus on standards for the optimal opera plants and to carefully and continuously monitor comp these standards. This approach represents a change i in air quality management. Traditionally, in order t emissions, regulators have relied on putting a piece on the smoke stack or changing an industrial process. recovery plants are already subject to substantial ex requirements and further refinement of these control must be part of any regulatory package. However, as begin to control a number of additional air pollutant above the traditional seven criteria pollutants, then critical to control key operating parameters in order and verify the reduction of all pollutants.

In a nutshell, we recommend that EPA be given 18[illegible] set standards for a series of "surrogate" measures which are indicators of major types of pollutants. These measure sulfur dioxide as an indicator of acid gases, opacity as an indicator of particulates and heavy metals, carbon monoxide as an indicator of combustion efficiency and halogenated organics, and boiler inlet and pollution control outlet temperature as an indicator of combustion efficiency and chemical destruction. Within the same time frame, EPA should also develop requirements for continuous monitoring and reporting of these measures in order to assure that both plant operators and regulators are given timely information so that they can take appropriate corrective action when necessary. The advantages of this approach over traditional ones are:

- o This program can be put into place quickly by EPA, yielding immediate environmental benefits without slowing development of resource recovery plants as the environmentally preferred alternative to landfilling raw municipal solid waste.

- o The approach is more easily adaptable to various types of plants and pollution control technologies.

- o The strategy assures low emission rates for pollutants which are members of related compund groupings without an ambient air quality standard being established for the individual chemicals.

ASSUMPTIONS OF OR RECOMMENDED APPROACH

Good pollution control of resource recovery facilities is based on recognition of two important physical facts. First, there are key steps that can be taken to control pollutants. Second, a control strategy that limits the emissions of one pollutant may increase the emissions of other pollutants. The implication of the first fact is that any individual pollution control measure must be judged on its ability to control a number of related compounds. The implication of the second fact is that control must be "tuned" to provide an acceptable limitation on the broad spectrum and that rarely can the emission of any single pollutant be minimized. Our recommendations attempt to take these realities into account to create a simple but powerful method of controlling air emissions.

Our recommended regulatory approach starts by giving EPA 180 days to set operating standards for several surrogate measures of the major classes of air pollutants. The items to be monitored are sulphur dioxide as an indicator of acid gases; carbon monoxide as a indicator of proper combustion and halogenated organics; opacity as a measure of particulates and heavy metals; and boiler and pollution control outlet temperature, as measurers of combustion efficiency, chemical destruction and plume dispersion. Selection of these measures is based on three criteria, ease of measurement, commercial availability, and high degree of correlation with the actual levels of the pollutants or control processes with which they are linked.

SPECIFIC PROPOSAL

The objectives of federal legislation to control air emissions from waste-to-energy facilities (WTE) must include (a) protection of human health and the environment, (b) a lessening of dependence on landfilling of municipal solid waste, (c) predictability in the regulatory environment, (d) preservation of the financeability of WTE facilities, and (e) expeditious response of EPA to the legislation.

Based on these objectives, USCM/NRRA proposes that a more simple, straightforward approach be developed than that proposed in your letter to us dated August 10, 1987. Our recommended approach would consist of the following components:

A. The administrator of EPA would be required within 180 days to establish interim Federal emission standards for carbon monoxide (CO), particulate matter (PM) and sulfur dioxide (SO2). Emission standards for these substances should be expressed in terms of flue gas concentrations or removal efficiencies at an O2 reference point.

Technical justification: CO and PM serve as surrogates for the minimization or control of the categories of compounds emitted from WTE facilities: (CO) for halogenated organic compounds (including dioxins and furans formed during incomplete combustion); and (PM) for heavy metals including lead. Control of SO2 implies the use of scrubber technologies which also ensure the minimization of other acid gas emissions. A general review of scrubber and other technologies which was held in Copenhagen, Denmark, demonstrated the reliable performance of this equipment. (Please see Appendix VIII). Scrubbers demonstrated the efficient removal of acid gases, heavy metals and many organic compounds (including dioxins and furans), as recently observed in the U.S. EPA report to Congress and the studies conducted by the Ministry of Environment, Canada at Quebec City. (Please see Appendix IV and VII).

B. The Administrator of EPA must develop within 180 days of date of enactment appropriate ranges of conditions for flue gas oxygen concentrations, combustor and air pollution control device temperature, and other appropriate indicators of efficient operation.

Technical justification: Efficiency of operation is critical to emission minimization. WTE facilities that employ state-of-the-art pollution control equipment also depend upon efficient operations to reduce pollutants. The Ministry Environment Canada, National Incinerator Testing and Evaluation Program Phase II clearly demonstrated how improving combustion controls can dramatically reduce pollutant emissions (Please see Appendix VII).

Current scientific studies of dioxin formation and destruction indicate that minimizing and containing dioxin emissions is feasible. (Please see Appendix I: Technical Issues Concerned with PCDD and PCDF Formation and Destruction in Fired Incinerators, National Bureau of Standards). The major conclusion of this National Bureau of Standards report are that:

- Removal of sources of chloride by pre-sorting of MSW waste streams prior to incinerators is not a reasonable option compared to combustion control minimizing PCDD and PCDF emissions from MSW fired incinerators.

- If precursor compounds are transported to the stack of an MSW fired incinerator, no significant PCDD and PCDF formation is expected to take place in the stack past the pollution control equipment.

Therefore, we beleive that controlling combustion efficiency through a CO standard, coupled with operational standards such as those recommended above to further assure efficient combustion, is the most important and effective method for controlling emissions of halogenated organic compounds. Such standards can be developed quickly and effectively by EPA and their implementation would add certainty and predictability to the regulatory environment.

C. The Administrator shall upon promulgation of the interim standards require continuous (or frequent intermittent) emission monitoring (CEM) for CO, opacity, CO2 or O2, SO2 and continuous monitoring of combustion chamber and control device temperatures.

Technical Justification: The use of CO, PM, and SO2 as surrogate measures for the three categories of pollutants heightens the importance of their control. Therefore, they should be continuosly monitored to ensure compliance (Opacity is actually used as a surrogate for monitoring of PM). Furthermore, CEM also provides operators of facilities immediate information regarding the operations of the facility. For example, good combustion is a product of turbulence, time and temperature. Any of these factors can be immediately altered to improve the combustion process if CO increases were found in the CEM process.

D. Within 240 days of promulgation of interim standards, the Administrator of EPA shall establish final standards for the three surrogate compounds (CO, PM, and SO2).

Justification: A 60 day public comment period should be required to provide ample opportunity to comment on the interim final standards;then EPA should be given 180 days to issue final standards.

E. No later than one year after date of enactment the Administrator should review all available relevant information and determine whether or not emissions of other specific pollutants from municipal waste incineration will cause or contribute to air pollution which may reasonably be anticipated to measurably endanger public health. After listing each pollutant, the Administrator would be required to promulgate a standard no later than one year after such determination.

Technical Justification: The decision to develop standards and the standard setting process should be based on best available scientific knowledge after public comment and review. Nonetheless, we believe EPA should be required to address the issue of other specific pollutants in an expeditous manner.

F. The Administrator of EPA should be required to prepare and submit a report to Congress recommendations for source reduction, source separation and recycling of municipal solid waste. The report should address the identification of substances in consumer products which may result in unacceptable contamination of the environment and adverse affects on public health. The Administrator should discuss the feasibility of removing such substances from consumer products at the point of production and should identify substitute materials for consumer products that are practical and economical.

Technical Justification: It is sound environmental policy to limit the use of certain substances in the production process that significantly contribute to problem pollutants within landfills, WTE facilities and recycling processes. However, because of the magnitude and sensitivity of this issue, a variety of factors must be taken into consideration before specific policies or regulatory structures are developed. These factors include: 1) the extent to which such substances actually contribute to ambient levels of pollution in the enviroment; 2) the ability of the private sector to replace such substances economically; 3) the extent of economic disruption resulting from such changes; 4) the extent of scientific evidence that limitation, reduction or elimination of the substance will, in fact, reduce unacceptable levels of pollution.

To instill public confidence and mitigate regional uncertainties such enviromental decisions are appropriately made at the national level. Municipal solid waste contains substances that arrived in the community through interstate and intrastate (even international) commerce. It is impossible for local government officials to effect changes in product composition of materials that flow freely between hundreds of cities.

One example of the need for more research is the often proposed claim that high concentrations of plastic in the waste stream will result in increased emissions of dioxins from WTE facilities. The recently released Pittsfield report, however, disputes this claim. Waste burned in the facilty was intentionally spiked with plastics. No measurable increase in dioxins was found. The study further supports evidence that plastics do not significantly contribute to dioxin emissions.

Heavy metals, such as lead in lead based ink, should be carefully studied in terms of their contribution to pollutants in all forms of solid waste disposal: landfilling, WTE and recycling. For example, the source separation of batteries from WTE facilities may reduce lead emissions and lead content in ash residue. However, if source separation results in subsequent deposition of heavy metal laden materials in landfills which represent a highly leachable environment, as opposed to ash residue from a WTE facility which has a much lower level of lead leachability, then enviromental protection has not been served. The Malcolm Pirnie Study indicates that leachability of heavy metal in MSW is greater than in WTE ash residue. (See Appendix VI). Furthermore, little research has been performed regarding the toxicity and safe disposal of lead-based ink sludge from paper recycling processes.

We reiterate that policies regarding product composition must be applied nationally. While local governments may be willing to assist in persuading companies to modify product composition, interstate commerce and our national economy can not function if counties, cities and towns are forced to effect product composition locally.

COMMENTS TO SPECIFIC QUESTIONS

Should BACT apply to existing plants at a later time, or in a different form than for new units?

BACT for existing units has been determined on a case by case basis in order to take into consideration emissions at the site, background levels of pollutants at the site, modeled ground level concentrations, and other local envirnonmental factors.

In most cases existing incinerators could be upgraded by adding continuous monitoring, and by upgrading the systems which control combustion. In some cases additional fields could be added to an ESP, or a fabric filter could be installed. However, in many cases there would not be room on the site to do this, and it is even more unlikely that a scrubber could be added.

In view of the small number of existing incinerators, and the small contribution to ambient pollution levels made by most existing incinerators, it would be hard to justify expensive, major upgrading to meet the standards imposed on new incinerators.

Therefore, we propose that existing incinerators be grandfathered from federal regulation and that decisions to require upgrading be left to the states and local government, who are more able to assess local environmental and solid waste management issues associated with existing facilities. Such federal grandfathering is supported by the recent findings of the Pinellas County, FL facility which indicated insignificant health risk. The study conducted by HDR Techserv and performed at the request of the State of Florida, determined that the likelihood of developing cancer for the maximum-exposed individual living for 70 years within a quarter of a mile of the emission stacks downwind is 1.2 chances in a million. The Pinellas County facility is a 3,150 ton/per/day facility and does not have SO2 scrubbers or a baghouse. WTE facilities are now generally required to have these as a part of BACT. (See Appendix III).

Should emission standards and definitions of BACT vary according to the type and size of incinerator?

Legislation should provide the Administrator the flexibility to take into account the major types of municipal solid waste incinerator technology in setting such standards, but we do not believe that the Administrator, perse, should be required to set separate standards.

Should there be health-based standards beyond emissions levels based on BACT to assure protection of human health?

The levels achieved by BACT are far more stringent than needed to protect human health.

For instance, ground level concentrations modeled on existing plants meeting New Jersey standards are far less than 1% of ambient air quality standards (safe levels based on health standards). They range from 0.04% to 0.55% of the safe level for health effects. (See figure 11).

In other words, even emissions from 100 plants in the future, equipped with acid gas controls, meeting an 0.015 gr/dscf standard, which may be considered to be BACT, would still not produce ground level emissions which would exceed the health standard.

Conservative total risk Assessment from all non-criteria pollutants for plants presently permitted show 1 to 6 additional cancer cases per million population affected, a level which is not considered to be a matter of concern. The emissions on which these risks are based are those from existing plants with ESP's, and are far higher than those reported for new plants with scrubbers and fabric filters.

Also, please reference previously mentioned study of Pinellas County facility, with an MEI (maximum exposed individual) risk of 1.2 in a million with an ESP only.

Are the levels of emissions specified in the draft bill a feasible standard which can be met by incinerators using BACT, and are they protective enough of human and environmental health?

The levels specified in the draft bill are far more protective than would be required to protect human and enviromental health, as noted above.

The levels specified are more restrictive than can be justified, and may not be feasible or desirable.

For instance, the 0.01 gr dscf level of PM should be considered to be a design guideline, not a 'not to exceed' level or a level requiring shutdown of the facility. A more realistic level for a Federal standard would be 0.02 gr/dscf not to be exceeded during the acceptance test, nor in subsequent tests. Leeway must be allowed for some deterioration of performance over a period of time, or the plant will be compelled to shut down even though the emission levels are not a matter of concern to health or environment.

When the PM level is regulated, the emissions of lead and most other heavy metals are indirectly regulated, and are generally reduced to levels far below those which would be a health concern.

HCl emissions are automatically reduced by 90% or more when acid gas control systems are installed for the purpose of reducing SOx emissions. Therefore, if scrubbers are needed for SOx, there is no need to specify the removal efficiency or stack concentrations of HCl. In other words, SO2 can serve as an indication for other acid gas control.

The levels proposed for SOx and HCl of 40 and 30 parts per million (ppmv) are excessively low as 'not to exceed' federal standards. SOx emissions in this range are a matter of concern only in those localities already having high background levels.

Too stringent control of SOx may result in increasing the amount of soluble lead in the ash residues. From a total environmental point of view it may be counter-productive to set excessively low SOx emission levels.

The CO standard of 50 ppmv, suggested in the draft, is too low to be considered as anything more than a design guideline or objective. It is unduly restrictive for a Federal standard. Plants which can meet all emission requirements may not be able to meet this level . On other the other hand, 100 ppmv can probably be met by any plant, including RDF plants, as a long-term average. A level of 400 ppmv must be allowed for short periods such as several hours as long as the daily average is below 100 ppmv.

Test data recently published from the Pittsfield plant show that dioxins and furans are nearly proportional to CO, and that doubling the value of CO doubles the emissions of PCDD+PCDF.

The levels of PCDD and PCDF associated with 100 ppmv of CO do not represent a health risk, according to numerous Risk Assessments, hence there is no basis for requiring more stringent CO emission levels.

CO is a good surrogate for complete combustion and for the many organic emissions from combustion of MSW. When CO is low, total hydrocarbons (THC), PVC, dioxins and furans, CB, VOC and other pollutants are extremely low and not a matter for concern.

Please see Appendix II for the Spokane Regional Waste-to-Energy Project Permit Application Package: Health Effects page 95-104 and table 5.5.11 and 5.5.12.

How often should incinerators be required to meet updated emissions standards based on availability of improved technology?

Given the fact that incinerators do not significantly contribute to ambient air quality levels, we propose that incinerators that meet the initial standards be grandfathered from future revisions of standards, unless a public health threat is found. Authority to review existing incinerators operational for longer than 10 years as of date of enactment should lie with the applicable permitting authority that has oversight of the municipality serviced by the facility. In this manner, state and local authority can take into account a variety of factors, including the environmental benefit of retrofits; the cost of retrofits; the locality's solid waste management plan, etc. in determining whether revisions are necessary, practical, or justified.

Would more explicit Federal authority to regulate product composition, source separation and recycling be necessary for the removal of substances and pollutants from the waste stream "as the best way to protect health and environment from dangers of emissions and leaching of ash and non-combustible in landfills?"

The emissions from combustion are significantly reduced (by 99.9% or more) by combustion and emission controls. Removing any substances from the waste stream through source separation or recycling may not have a significant affect on these emissions. USCM would not object to more explicit federal authority over product composition.

Burning the MSW first eliminates almost all of the risk due to organics in the waste stream. The inorganics in the MSW are not changed essentially in quantity by burning. However, they are changed chemically, mainly in such a way as to limit the leachability of the heavy metals.

The only metal which is not easily removed from stack emissions or prevented from escaping from a landfill is mercury.

Incinerators with acid gas controls can remove about 90% of mercury, and convert it to nonvapor forms which can be disposed of safely in landfills. The amount of mercury is small in any case.

The reduction of the mercury and cadmium of batteries has already taken place and further reductions should be encouraged.

A reduction in the use of cadmium and chromium in paints, pigments, and plastic fillers could somewhat reduce the input of these metals to MSW incinerators. However we believe the Administrator needs to study the magnitude of effort that would be needed to achieve certain emission reductions and whether such reductions would be justified. Therefore, we propose that the Administrator of EPA report to Congress on the issue within two years.

Make requirements for solid waste management plans and the elements dealing with source controls enforceable?

Enforcement of solid waste management plans should reside at the local and state levels. Federal enforcement of mandatory source separation program would be extremely problematical and intrusive. Generally, public education, publicity, and incentives are the most productive means to promote recycling.

Whether to include a requirement for operator training.

Yes, as indicated by our responses to several questions, good operations of incinerators are extremely important to pollution control and minimization. Industry officials are already working on such a program.

WHY THE USE OF LAER BY POLLUTANT IS UNWORKABLE AS A BASIS FOR DEVELOPING STANDARDS

Basing emissions standards on the lowest levels achieved in practice through application of the best available control technology does not take into account the complex relationship which exist in the formation and control of the various pollutants. For example, there can be an inverse relationships between NOx and CO emissions, which when CO levels are kept low, emission levels of NOx go up. Some flexibility is needed to manage the combustion and control processes in order to achieve the lowest overall emission levels, or to target a specific pollutant which may already be excessive in the background ambient air in a particular region. This would allow a locality which is in violation of the CO limits to keep CO emissions as low as possible, while another area may be more concerned about NOx.

Temperature is a critical control factor, both in the combustion process and in the flue gas. Temperature in the furnace should range from 1600F to 1800F because a very promising waste combustion technology, fluidized bed RDF incinerators, operate at the 1600F range and have the potential for very low emissions. The reference to "fully mixed height" should be deleted,as this is not a scientifically established, fixed point in space that could be measured directly and is therefore unenforceable. Specifying a residence time of one second at 1800F or (1600F for fluid bed facilities) is used as an indicator which can assure proper combustion management for dioxin control.

Setting the temperature of the flue gas also involves tradeoffs between control at various pollutants. Acid gas scrubbers cool the exit gas from 450F to 275F. At 275F, metals condense onto the fly ash, and are collected by the particulate control equipment (ESP or baghouse). With a scrubber and particulate removal devise, you may get removal efficiencies of:

Mercury	60 percent
SOx	70 percent
HCl	80-90 percent
metals	99.9 percent

However, beacuse the exit gases are cooler, they do not rise as high or as quickly, thus decreasing the dispersion achieved by the stack, and increasing the ground level concentrations of those pollutants which remain in the exit gas.

Mercury is the most difficult of the metals to control because it vaporizes at a very low temperature. To get 90 efficient removal of mercury is achieved by carefully reducing the operating temperature in pollution control devices. This results in lower stack gas temperatures, which in turn would result in even higher ground level concentrations of all pollutants because of the consequent loss of exit gas plume height.

The outlet gas particulate standard in the draft legislation is more severe than any known existing regulation. The California standard is 0.01 grains per dry standard cubic foot (gr/dscf) at 3 percent O2 (which is 0.015 gr/dscf at 7 percent O2), and New Jersey permits require 0.015 gr/dscf at 7 percent O2. No state or foreign government, such as West Germany or Sweden, has a limit of 0.010 gr/dscf corrected to 7 percent oxygen.

Applying state implementation plan or permit levels, if such are more stringent than levels actually achieved in practice with best available controls, may simply not be physically possible. State standards or permit requirements are not necessarily science-based, but instead often reflect a response to public concerns. An example is the recent (8/23/87) Pennsylvania plan approval for the Montgomery County facility, which requires continuous monitoring for both SOx and HCL. Because pollutants are concomitenly removed by the scrubber at established rates, monitoring for both greatly adds to the operating cost of the facility without providing regulators or operators with information which they would not have by monitoring for SOx alone. Reliable continuous monitoring for HCI is very expensive and is not possible with technology currently available in the U.S.

August 12, 1987

DRAFT AMENDMENTS TO CLEAN AIR ACT

180 days

(a) For purposes of this section:

Amend Section 42 U.S.C.A. 7411 [CAA§ 111] as follows:

(9) Not later than [one year] after date of enactment of this section the Administrator shall promulgate interim final standards of performance to control the emissions of air pollutants into the ambient air from each new or modified municipal waste incineration unit, [effective six months after promulgation.]

(A) (i) Standards shall be promulgated under this section for the following pollutants: carbon monoxide, particulate matter and SO_2. Emission standards for these substances shall be expressed in terms of flue gas concentrations or removal efficiencies.

(ii) In addition, EPA shall establish appropriate ranges of conditions for flue gas oxygen concentrations, combustor and air pollution control device temperature, and other appropriate indicators of efficient operation. The Administrator may waive particulate control device operating temperature, maximum temperature and oxygen requirements if an equivalent degree of emission control of non-regulated pollutants is demonstrated.

(B) The Administrator shall consider the differences in the major types of municipal solid waste incineration technology in setting such standards.

(i) In setting such standards, the Administrator shall consider air pollution control devices, good combustion practices and cost-effective recycling.

(ii) Upon promulgation of the interim final rule, the Administrator shall require continuous monitoring for the following: carbon monoxide, opacity, CO_2 or O_2, SO_2, and particulate control device operating temperature.

(10) [Existing Facilities: To be discussed.]

(11) The Administrator shall afford interested persons an opportunity for written comment on the interim final standards of not more than 60 days. After considering such comments, he shall within [ ] of the close of the comment period promulgate final standards with such modification as he deems appropriate.

180 days

(b) Amend Section 42 U.S.C.A. 7422 [CAA § 122] as follows:

(A) (i) Not later than one year after [date of enactment] and after notice and opportunity for a public hearing, the Administrator shall review all available relevant information and determine whether or not emissions of other specific pollutants from municipal waste incineration into the ambient air will cause or contribute to air pollution which may reasonably be anticipated to endanger public health.

(ii) If the Administrator makes an affirmative determination with respect to any such substance, he shall simultaneously with such determination include municipal waste incinerators as a category of stationary sources emitting such substance in significant amounts in the list published under Section [111] of this title.

(iii) The Administrator shall be able to extend his review of all available information for good cause for an additional six (6) months or eighteen (18) months after the date of enactment. If the Administrator is still unable to make a determination with respect to any such substance at the end of eighteen months, the Administrator shall prepare a report to Congress which will be due sixty (60) days after the eighteen month date expires.

(iv) Within [90 days of promulgation of a standard for any substance under this section,] the Administrator shall determine if that substance should be tested and the frequency of testing. When determining the frequency of testing, the Administrator shall consider the availability of standardized testing protocols and the cost of achieving a valid test. The frequency of testing should be at least every two years.

(c) Amend 42 U.S.C.A. 7613, General Provisions, as follows:

Within two years after date of enactment the Administrator shall prepare and submit a report to Congress that shall include a discussion of and recommendations for source reduction, source separation, and recycling of municipal solid waste. The Administrator shall include in this discussion research describing municipal solid waste composition and identification of substances in consumer products that result in contamination of the environment and present potential adverse impacts on public health. The Administrator shall discuss the feasibility of removing such substances from consumer products at the point of production and shall identify substitute materials for consumer products that are practical and economically feasible.

Operator Training and Certification.

(1) Model Program. Not later than eighteen months after the enactment of this section, the Administrator shall establish a model State program for the training and certification of municipal waste incinerator personnel. The Administrator, may, in determining the Model Program, review and include all or parts of the Operator Training and Certification Programs developed and recommended by professional groups such as the American Society of Mechanical Engineers. The program shall include a requirement that all personnel achieve a passing grade on an examination on (and participate in continuing education to stay informed about) current technology for the control of pollution from municipal waste combustion facilities. The examination shall demonstrate the knowledge of the person in areas that the Administrator deems necessary and appropriate.

(2) State Programs. The Administrator may authorize any State to implement a State program for the training and

certification of municipal waste incinerator personnel if the State has adopted a program for such purposes which is at least as stringent as the model program developed by the Administrator under paragraph (1).

(3) Requirement. After a date twenty-four months after the enactment of this section, no person may operate any new or modified municipal waste combustion unit without achieving a passing grade on the examination developed under paragraph (1) or receiving a certification under a State program authorized under paragraph (2).

Sec 131 (a)(1)

p. 1 line 6 delete "greatest degree of". The applicable standard is stated to be BACT but inclusion of this word intimates LAER.

p. 1 line 12-17. Delete (a)(1)(A) and (B). Current law definition of BACT is sufficient. In addition, permit conditions are not a basis for determining the degree of emission limitation achievable from any specific technology-- actual operational data only should be used.

p. 1 line 2 from the bottom through p. 2 line 2: Delete "and shall incorporate siting requirements that minimize, on a site specific basis to the maximum extent practicable, any potential risk to human health or the environment." Siting is already fully considered under NEPA and local environmental regulations. Siting is a unque local concern, already subject to intense public scrutiny, and should not be more complicated by an additional layer of federal regulation.

p. 2, line 8 delete "source separation, source reduction, and recycling." These are solid waste management programs not control technologies. They should be encouraged by the Federal government, but they cannot be used to determine emission limits.

p. 2, delete line 14 through 16: "including the use of selective or non-selective catalytic reduction wet flue gas denitrification, selective non-catalytic reduction, wet scrubbing, or catalytic oxidation." These are not yet commercially available. They are in the demonstration or pilot stage only.

Insert in lieu of above at line 13: "including the use of staged combustion or flue gas recirculation." These methods are feasible and available while those included in the draft have not been demonstrated.

p. 2, 9 lines from bottom. Delete "fine" and insert "respirable". Respirable is the correct terminology and is already used in regulations.

p. 2, last line and carry over first five lines on p. 3. Clarify that the Administrator is not required to set specific standards for these substances.

p. 2, 8 lines from bottom. Insert "and" before and a period after "carbon monoxide." Delete "heavy metal (including lead and cadmium)' and halogenated organic compounds (including doxins and dibenzofurans)".

The heavy metals and halogenated organic compounds are not directly controllable. The heavy metals are indirectly controlled through particulates. The halogenated organic compounds are directly controlled through combustion controls but not directly controlled through air pollution control equipment. HOCs therefore will be controlled through both combustion and emission controls while heavy metals will be controlled through the particulate standards.

p. 3 line 9, delete "In no event shall any such standard" and add, "In the event the Administrator fails to promulgate intial standards under (a)(1) within 12 months, temporary standards for new facilities shall be implemented by the Administrator which shall not". Any reference to numbers should occur in report language, not the bill itself.

Specific numbers or standards should be used as temporary standards if the Administrator fails to promulgate standards in a timely manner; these standard levels should not be used to predetermine standard levels promulgated in the course of a full rulemaking.

line 10 delete "50" insert "100" for CO

Line 12 delete "0.010" insert "0.015" for particulate

Line 14 delete "40" insert "50" for SO2

Line 15 delete "30" insert "50" for HCl

and line 15 after "per million" insert "or 80% acid gas control whichever is less stringent;"

Based upon guarantees available from the vendor industry today, BACT by definition must reflect what is currently available and proven. BACT may be revised over time as EPA accumulates data in its revisions of the standards.

p. 3, line 16 and 18 delete from "retention" through "equivalent" and insert "combustion temperature of 1800 degrees plus or minus 200 degrees farenheit and a retention time of at least one second."

Same reasoning as previous amendment.

p. 4, line 5 end, delete (b). This provision, which we oppose, should be considered in the context of RCRA. From here down change all letters accordingly.

p. 5 line 5, after "part C or part D of" insert "the Solid

Waste Disposal Act" and delete "this Act".

p. 5 lines 8-15, delete sentence beginning "Within twelve months..."; delete sentence beginning "In no event shall...". We beleive existing units as of date of enactment should be grandfathered; however if concern exists within the Committee regarding older incinerators, the following approaches could be considered:

a. States must submit no later than 18 months following promulgation of standards under subsection (a)(1) a review of municipal solid waste incineration units that have been operational more than ten years as of date of enactment. Such reviews shall include recommendations for improvement of unit operations, combustion processes and pollution control equipment and shall take into account existing life of the facility, the local solid waste management plan, alternative disposal options and cost. If the Administrator determines such review to be inadequate, he may return it to the state for revision or choose to apply new standards promulgated under subsection (a)(1) to the unit; or

b. The Administrator shall promulgate operating guidelines for existing facilities to assure improved performance efficiency of such units; or

c. The Administrator shall apply Section 111(d) to existing units for both criteria and non-criteria pollutants.

p. 5 line 15-19. Delete sentence beginning "for purposes of revisions... through "maximum extent practicable" and insert "Revised standards shall not apply to any existing facility that has complied with standards promulgated under (a)(1)".

This is consistent with the need to minimize regulatory uncertainty as necessary to attain financing for these essential projects.

p. 6 line 17. Delete "hydrogen chloride". The technology is not available, line 18, delete "stack" and insert "air pollution control outlet". Air pollution control outlet temperature is more precise terminology.

p. 7 lines 14 throug p. 8 line 25 delete. As to subsection (4): Current technology does not allow identification of the source of human blood or tissue contaminant concentrations. Therefore human blood test in the area of incinerators would be scientifically useless and socially irresponsible. MSW incineration should not bear the full cost or responsibility for ambient environmental testing and broad scale health studies since the facilities are only one of many sources and an insignificant contributor of these chemicals.

As to subsection (f): First, these essential incinerator projects will not be financed if they are subject to continuous uncertainty. So, a five year sunset of permits is impractical. Normal permit review and permit enforcement mechanisms suffice.

Second, many states and localities currently both issue permits for these projects and participate in the design, construction or operation of the project. There are often state and local funds for some portion of the project. The restriction on permitting by state and local officials, who are also involved in project development, is unworkable and insulting to the integrity of these officials. No such restriction has ever been applied to federal entities to our knowledge.

p. 10 line 4 from bottom through p. 11 line 4 delete. term not appear in statute.

p. 11 line 8 - p. 12 line 19 delete. The concept of an enforceable solid waste managment plan should not be addressed in this legislation as a threshold issue to resource recovery construction. This is a RCRA issue.